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CU

AMIGA MAGAZINE

SEPTEMBER 1998 £5.99 US$14.50 • IL20,500 • ASCH185 • BFR 445 • DM 28.00 • LF 490



COME TOGETHER
Networking made simple

CU 2000
Timewarp to the next millennium

Old Dog New Tricks
Get your second Amiga out of retirement

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Ateo Tower
CrossDOS 7
Samba World Cup
Epic Encyclopedia 98
Loads more

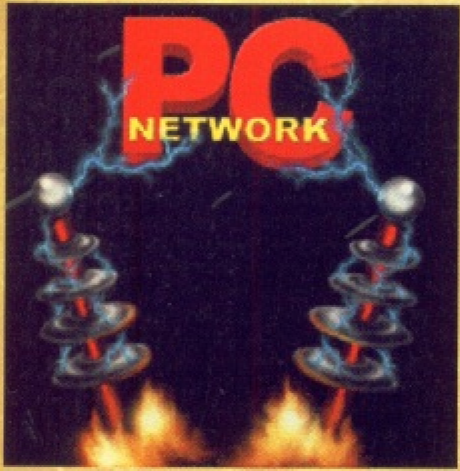
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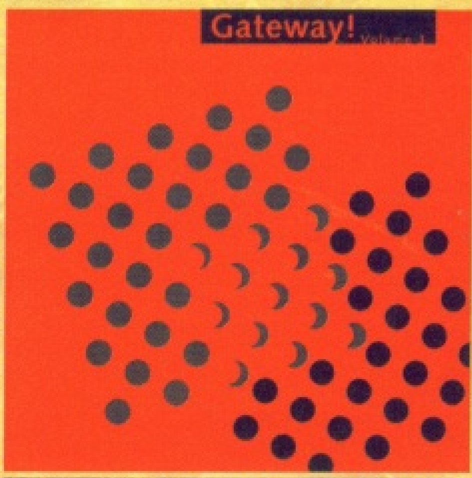
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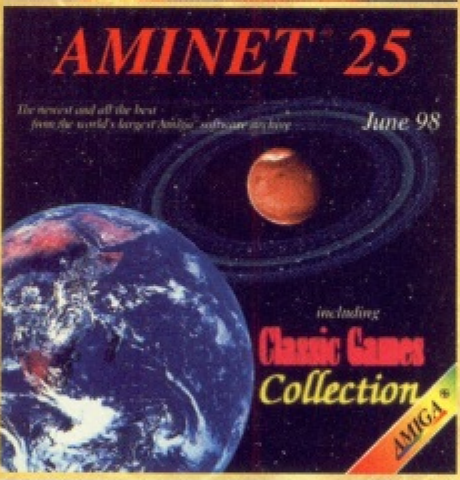
Network PC provides a file system for accessing your PC drives from the Amiga. It will provide any WB program with access to any of your PC drives, including CD, Zip, Jazz, fixed hard drives and also networked drives. The PC acts as slave machine and can therefore not access the Amiga, however an Amiga can read and write to the PC drives. You can not only transfer files between the two machines but also load files directly into you Amiga programs from the PC. The system is WB 2.04+ and Win95 compatible and the PC can perform other tasks simultaneously. Network PC contains all that you need to connect the two machines including full manual, installation disks and CD-ROM of extras and the Amiga Emulator for the PC.

Price - £17.99



Gateway! Volume 3 is a double CD-ROM and with the release of NetBSD versio 1.3.2, a milestone in the widened space of UNIX-alike operating systems has been set.
Gateway! Volume 3 offers NetBSD 1.3.2 in full featured release versions with installation files for all 16 supported platforms: Amiga, Atari, Archimedes, HP300, i386, Mac (68k), Motorola, VME (68k), DEC 5000, Sparc, Sun 3 (68k) & VAX. Including X Window, all sources in compressed form, binary distributions for m68k and i386 for many tools, editors, libraries, TeX, & games. Additionally Xfree86 is supplied for i386.
You can boot from the CD-ROM without hassle on the Amiga, i386 & Sparc - no complex installation, all menu driven. This CD is directed at the UNIX-Meister.

Price - £9.99



AMINET® Volume 25 offers you everything that was added to the archive since AMINET® Volume 24 was made, plus the Classic Games Collection. AMINET® Volume 25, dated July 1998, consists of approximately 1 gigabyte of software in thousands of archives.

We have Aminet 20 to 25 in stock and Aminet 26 is available in August. The Aminet CD's are the best selling Amiga CD's and are released every 2 months. The Aminet series contains a mirror of the world's largest Amiga Internet archive.

Subscribe to the Aminet Series for only £8.99 per CD and receive your Aminet CD upon release. Subscription is FREE.

Price - £10.99



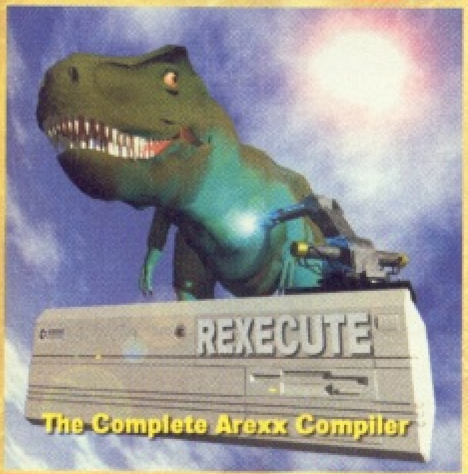
AMINET® SET 6 offers you everything that was added to the archive since AMINET® SET 5 was made, plus full versions of Wordworth 5 SE, TurboCalc 3.5, PPaint 6.4 & Wildfire 3.38.

AMINET® SET 6, dated March 1998, consists of approximately 4 gigabytes of software in 7.500 archives. Since the release of Aminet 23 more than 440 MB of new software have appeared.

All Six Aminet Box Sets in stock.

Aminet Box Set 1, 2 & 3 £15.99 each
Aminet Box Set 4, 5 & 6 £27.99 each

Aminet Set 6 Price - £27.99



REXECUTE is a fully featured Arexx compiler for the Amiga. Rexecute is provided on floppy disk and comes with a Hard Drive installer and full documentation on the disk.

With little or no programming experience it is possible to create executables from Arexx scripts and with the on-line help system Rexecute is a very easy program to use.

Included is a tour on the features of Rexecute to get you started quickly.

Requires Workbench 2.04 or above, a hard disk, at least 2Mb of Ram.

Price - £19.99



SCALA MM 400 is the well known software to generate perfect presentations or multimedia applications. At it's simplest it is a fantastic video titling package and at it's best it is a superb multimedia authoring package. Scala MM 400 provides a huge array of video fonts, textures, fades and wipes for high quality video work. This CD edition also contains extra materials on top of the original fonts, backgrounds and buttons provided with Scala MM 400.

The CD contains full documentation on Scala and an interactive presentation, instantly demonstrating the powerful features of Scala MM 400.

Upgrade from Scala MM300 for only £49.99

Price - £69.99



Amiga Forever 2.0 allows users to share data between Amiga and other systems, and to use their existing Amiga software and data on non-Amiga hardware. Additionally, software, tutorial and reference files are included. Amiga Forever includes hundreds of pages of documentation in HTML and AmigaGuide formats, with thousands of useful links and cross references.

· Amiga Explorer 2.0 networking software, which allows you to connect an Amiga to one or more PCs, and access Amiga files.
· UAE Amiga emulator for Windows and DOS, and Fellow for DOS. All emulation support files (Amiga ROM and OS, Cloanto Amiga software, Picasso 96 drivers, etc.) can easily be used by other implementations (Linux, Be, Next, etc.) of these emulators, as well as by future new versions.
· Cloanto Personal Paint 7.1 (paint, animation and image processing software), DirDiff 5.1 (file synchronisation and replication software) and AmiToRTF 4.2 (to convert texts from Amiga to Windows formats), usable on a "real" Amiga.

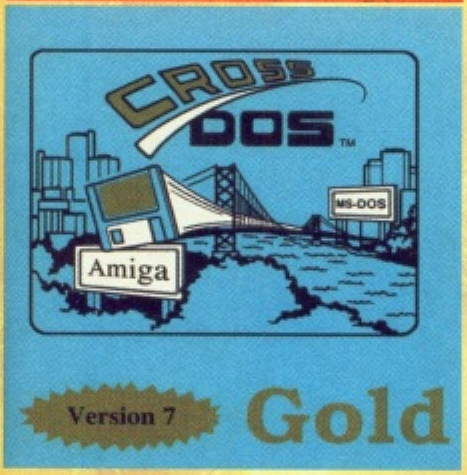
Price - £39.99



AMI-FILE SAFE comes of age with the release of Professional File System 2 (PFS2). PFS 2 is an Amiga replacement file system for hard drive users which provides superior performance with up to 500% improvements over the standard Fast File System. Disks are always valid with no more 'validating disk!'. PFS 2 provides unparalleled reliability and concurrent access without performance loss. PFS 2 comes on CD and improvements over Ami-FileSafe include........

- 68000, 68020, 68040 and 68060 versions.
- improved testing procedures, more reliable.
- fully Ami-FileSafe compatible plus disk repair.
- early problem detection mechanism. This detects problems with your disk before it is too late, ensuring optimal protection of your data.

Price - £29.99

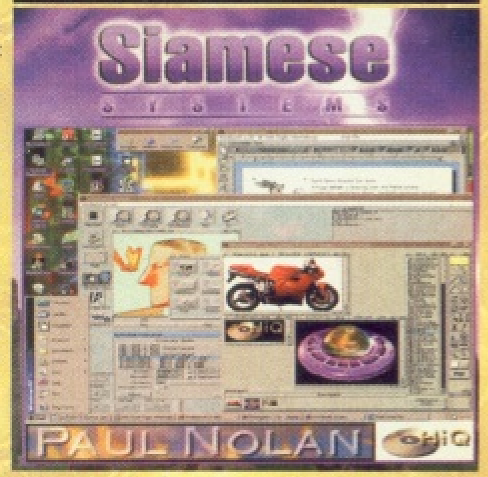


Cross Dos 7 allows users to read and write PC and Atari ST formatted floppy and hard disks directrly from the Amiga. CrossDos integrates into the Amiga Operating system, allowing access from virtually any Amiga application.

Features include:
- Read & Write to PC Floppies & Hard Disks.
- Windows 95/98 Long Filename support.
- Supports removeable drives such as Zip.
- Disk changes are sensed automatically.
- MS-DOS hard disk configuration software.
- Utilities to partition, format, copy PC Disks

Requires Workbench 2.04 or above.

Price - £39.99

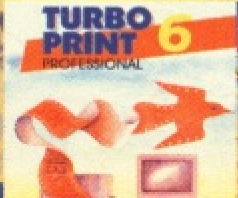


Siamese 2.1 is based on the full 2.5 Siamese RTG pack but without the TCP/IP Ethernet capabilities and uses a normal null modem cable (not supplied) for connection between the Amiga and PC.
Provided is support for all serial speeds available to both PC and the Amiga. Supports third party high speed serial cards. Remote control the Amiga from the PC. Most RTG friendly Amiga screens will appear in a Window on Win95/NT4. Single keyboard and mouse control for both the Amiga and PC. PC drives are accessible from a standard AGA Amiga, with up to 13k per second. Supports SCSI networking to speed up file transfer (1Mb / sec) with suitable controllers on the Amiga and Amiga. Works with Network PC and Amiga Forever packages.

Price - £29.99



£24.99



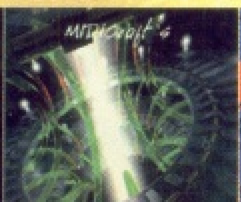
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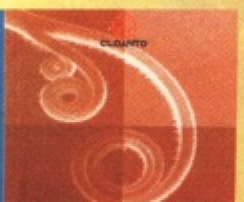
£19.99



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Editorial



No computer is an island, so goes the saying. Or was it 'no man'? Whatever, these days if your computer isn't somehow linked up to a string of others it's considered a social outcast. That's why we've kicked off a short series on how, and why, to get your Amiga hooked up to a network. On a similar thread we've also come up with a bucketful of uses for retired Amigas. Once you've squeezed every last drop out of your current crop of Amigas, take a look at our predictions for The Big Day when the next gen machine appears!

Tony Horgan, Editor

Screen Scene

Game Previews

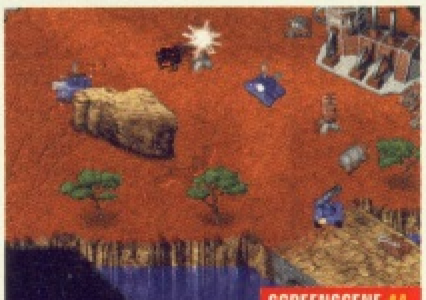
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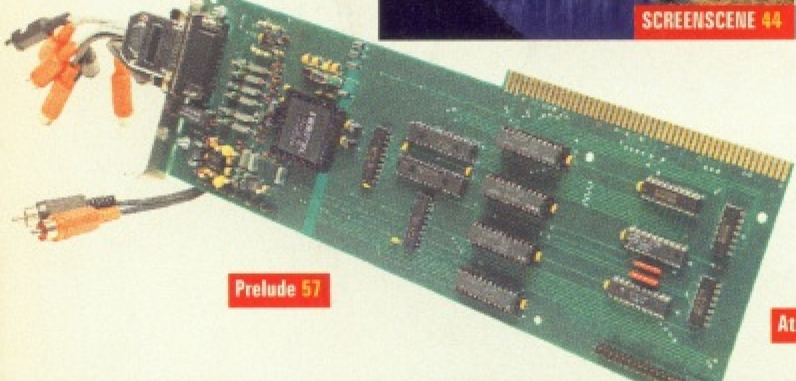
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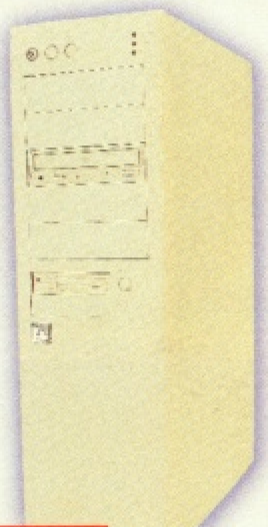
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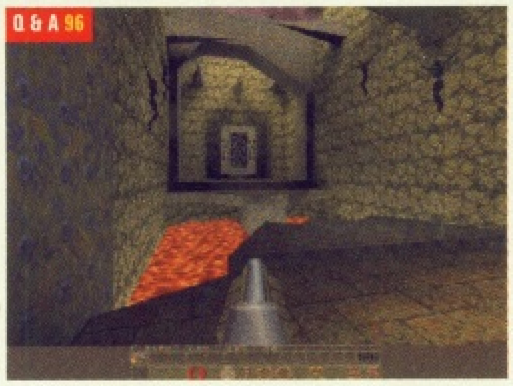
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In Shadow of Time is an adventure from the oddly named ShadowElks. Check out this demo! Also a collection of networking utils to tie in with our networking feature.







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Can you imagine what it will be like when the amazing next generation Amiga actually appears? There's no need to imagine any more...

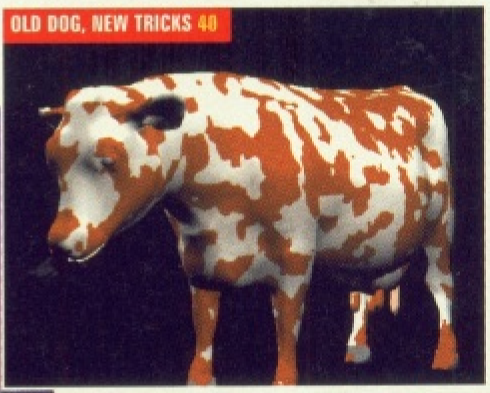
36 Networking Made Simple

In the first of our new networking mini series we take a look at the best ways to fuse one or more Amigas together in harmony.

40 Old Dog, New Tricks

They say you can't teach an old dog new tricks, but they never said anything about old Amigas! It's time to revive that dusty old second machine.


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CU AMIGA MAGAZINE

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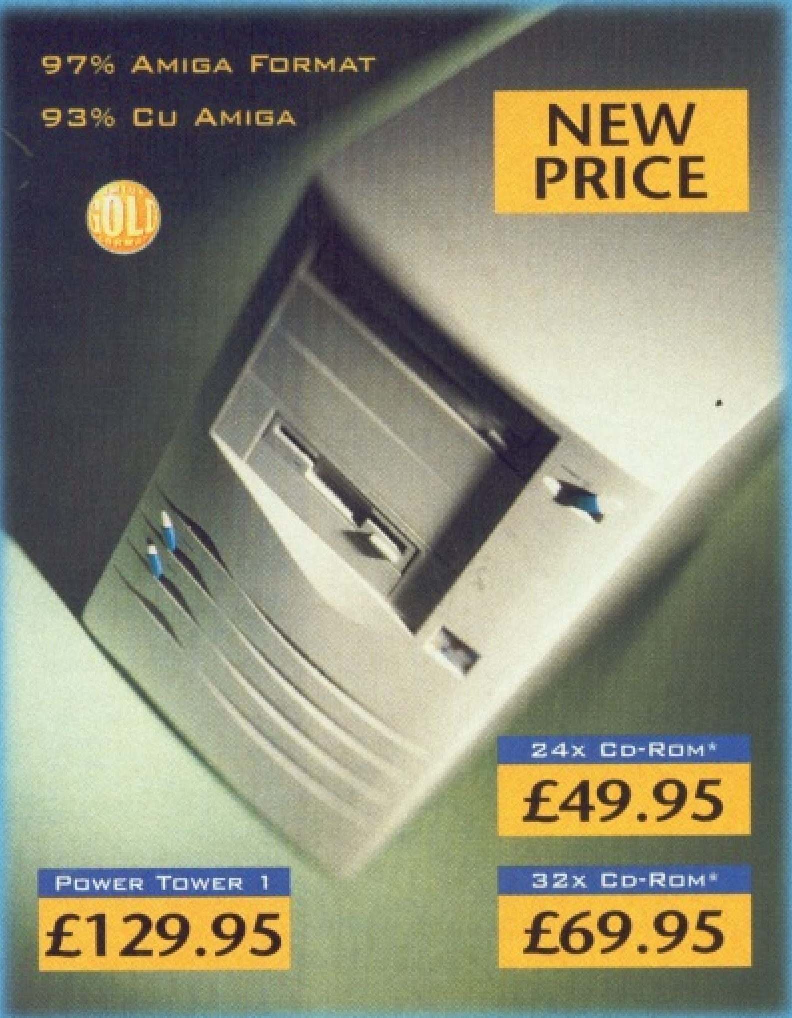
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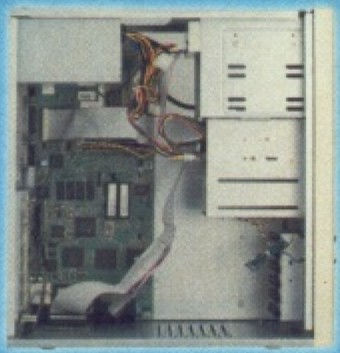
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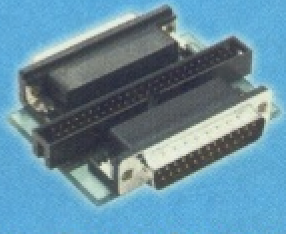
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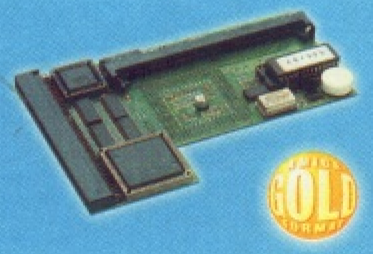
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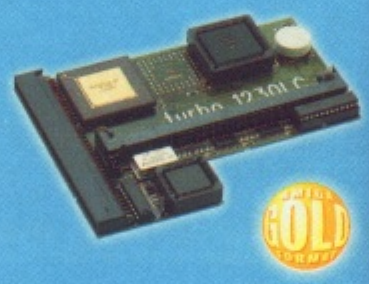


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AMIGA MONITOR

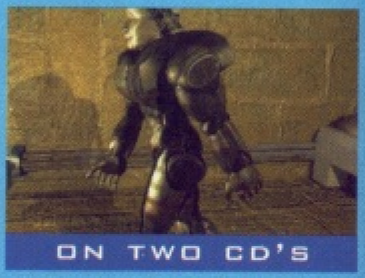
- Official 1084s inc. speakers

1084s Amiga Monitor .. £119.95
(Monitor not shown)



THE GOLEM

The outcome of two years development of a brand new game, which is going to be the first of a new breed of software, using interactive Full Motion Video at a high quality.



Minimum Requirements:

- x6 CD-ROM Drive required
- 68020 and FAST Memory
- 50MHz 68030 inc. 8MB RAM (recommended)
- Graphic Card versions in development

Game Features:

- Full Motion Video
- Rendered in Lightwave
- Several sub-games
- Huge game on 2 CD-ROMS

PHONE ORDERS We accept most major credit cards and are happy to help you with any queries. **CHEQUES/POSTAL ORDERS** Ordering by cheque/PO please make payable to POWER COMPUTING LTD and specify which delivery is required. **WARRANTY** All Power products come with a 12 month warranty unless otherwise specified. **TECHNICAL SUPPORT** Help is on hand with a full Technical Backup service which is provided for Power customers. **MAIL ORDER PRICES** All prices listed are for the month of publication only, call to confirm prices before ordering. **EXPORT ORDERS** Most items are available at Tax Free Prices to non-EC residents. Call to confirm prices. **BFPO** orders welcome. **MAIL ORDER TERMS** All prices include VAT. Specifications and prices are subject to change without notice. All trademarks are acknowledged. All orders in writing or by telephone will be accepted only subject to our terms and conditions of trade, copies of which are available on request. Please allow up to 7 days for cheques to clear before dispatching of the goods.

THE NEW POWER FLYER

Power strikes back again with a faster E-IDE Controller for the Amiga 1200. If you have recently bought a Hard Drive and you've probably realised that it is slower on your Amiga than on compatibles. Power can now solve that problem, thanks to the Power Flyer, a software and hardware solution which completely replaces the IDE controller of your Amiga 1200.

In PIO-4 mode it is possible to reach a maximum speed of 16.6MB/sec. Most drives will increase their transfer speed from 2.5MB/sec. to 7MB/sec.

Tested with most accelerator cards, we found that the best performance is achieved with Apollo cards. (especially the 68060 66MHz ones)



- Up tp 4 E-IDE and ATAPI devices can be connected
- Supports mode PIO-0, PIO-3 and PIO-4 (A1200 standard controller supports PIO-0)
- Meets specifications for ATA-3 and FastATA-2

Amiga Format "...this is probably the most significant hardware release of the year" **98%**

POWER FLYER **£69.95**

SCANMAGIC FLICKERFIXER

A scan doubler works by doubling the vertical frequency of the Video compatible Amiga modes (15KHz, Pal, NTSC and Euro36). The signal generated will then be displayed by any standard SVGA monitor.

The more expensive flickerfixer adds one extra feature to the ScanMagic. It eliminates the flickering from all interlaced Video compatible Amiga modes.

Nobody can stop you anymore from buying a nice, inexpensive, PC compatible monitor (check our prices and models, all sizes are available).

- Doubles the Vertical frequency of the Amiga PAL, NTSC and Euro36 video modes
- Allows you to use any standard VGA monitor with your Amiga 1200 and 4000
- Fits internally-easy installation
- VGA Adaptor included
- Pass through of all other modes

Internal	**£54.95**
Internal inc. Flicker Fixer	**£99.95**
External with Flicker Fixer	**£99.95**
ScanMagic External	**£69.95**
VGA Adaptor	**£15.00**



SCANMAGIC **NEW**



SCANMAGIC INT. **£54.95**

POWER MOVIE

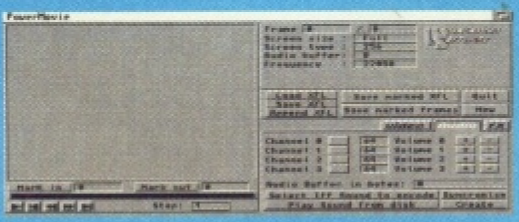
'The World of Amiga' show saw the launch of our most recent innovative product, Power Movie.

This product is a long awaited tool for easy Full Motion Video editing. We anticipate that it will be popular with the developers of Multimedia projects or videogames and whoever needs to put together thousand-frame-long 3D rendered animations with synchronised soundtrack/sound F/X and in need of playing the resulting animation in real time straight from a hard drive or CD-ROM. Each frame can be in 256 or HAM-8 colours and have a different palette.



POWER MOVIE PRODUCED

Power Computing is in the process of licensing PowerMovie according to its final use in order to keep its price down. Amiga enthusiasts will be able to buy the software with a cheaper licence for personal, strictly non-commercial use. Commercial usage requires a business licence for companies planning to use the software and the files it creates for commercial products i.e. video games, Multimedia, Info-Points, etc.



POWER MOVIE **£34.95**

COMMERCIAL USE **£TBA**

POWER CAMERAS

Power VDC100 and VDC200 Digital Cameras

Oliver Roberts, of F1GP Editor's fame, is the author of the Power DC, the software for Power's Digital cameras.

VDC-100 Technical specifications

- Image/Video: 250,000 pixel CCD 24-bit colour
- Resolution: 320 x 240 (standard), 640 x 480 (high resolution)
- Memory Stores up to 20 images (20 standard, 10 high or a mixture of both)
- Real Time Video in Black & White (NTSC)
- Shutter Speed: 1/60 to 1/16000
- Focus Range: 10cm to infinity
- Power Supply: 4 A4 1.5V batteries or DC Power adaptor

VDC-200 Technical Specifications

- Image/Video: 470,000 pixel CCD 24-bit col
- Resolution 320 x 240 (standard), 640 x 480 (high resolution)
- 45mm Colour TFT LCD monitor
- Memory: 2MB, stores up to 50 images (standard mode)
- Compact flash memory slot
- Built-in flash
- Real Time Video in colour (Pal)
- Shutter Speed: 1/60 to 1/4000
- Focus Range: 250mm to infinity



VDC100 CAMERA

89% Amiga Format



VDC200 CAMERA

VDC100 Camera	**£99.95**
VDC200 Camera	**£199.95**
2MB Flash RAM (VDC200)	**£49.95**
4MB Flash RAM (VDC200)	**£TBA**
50 Alkaline Batteries	**£25.95**

New software v1.2, existing owners send SAE for free upgrade!

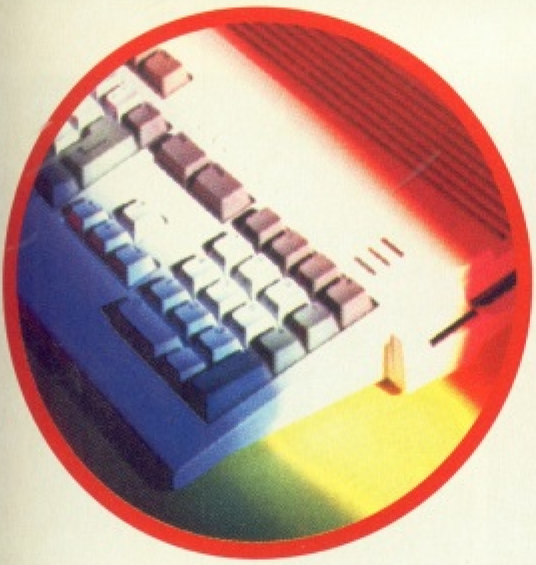
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News

Specification of the new Amiga announced

A proposed minimum specification for the new Amiga was announced at the AmiWest '98 show by Bill McEwen, Amiga Inc's so-called Head of Marketing and Software Evangelism. The audience was impressed by McEwen's eloquence and enthusiasm – despite their disappointment over the non-appearance of Jeff Schindler and Alan Havemose. Schindler and Havemose were supposed to representing Amiga Inc, but were forced to cancel at the last-minute.

McEwen discussed the features required by the new Amiga operating system. He said that while Exec was an excellent kernel, the new OS would need to support facilities like memory protection, virtual memory, multiple processors and real-time processing. It must be compatible with standards like OpenGL and Java, and be Internet-ready. It must also address new APIs to simplify tasks in the emerging 'Convergence' market.



Video & Sound

* Real-time 3D rendering engine with 2D primitives
* HDTV (resolution up to 1920x1080)
* RGB, PAL & NTSC encodings
* Multiple simultaneous MPEG-II decoding
* Hardware filtering, scaling, colour space conversions, de-interlacing
* Dolby AC-3

Multimedia / RISC System

* Scalable through multiple multimedia processors
* 56K modem
* PCI Controller
* Rich development environment (C++, assembler, debugger, linker, etc.)
* Native Java VM

Chip Specifications

* 400 million textured, bit-mapped pixels per second. With 24 bits per pixel, this corresponds to 1.2GB/s of output from the 3D engine (for comparison ECS Amiga has about 8MB/s access to chip RAM while AGA machines can manage up to 32Mb/s).
* 4 simultaneous MPEG-II decoders

RISCy rendering?

Eyelight, the makers of Tornado 3D, are working on a new 3D graphics package called 'Mage. 'Mage is aimed at a higher-end market than Tornado 3D and requires a machine with RISC architecture to run. Releases are currently planned for PPC-equipped Amigas, the PowerMac and Silicon Graphics RISC workstations.

While 'Mage shares some features with Tornado 3D, it is a completely different package; Eyelight say that development of Tornado 3D will continue.

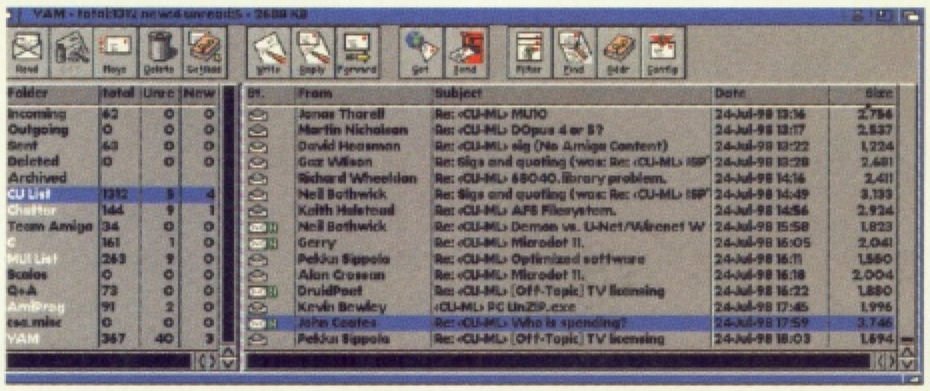
The first release of 'Mage is scheduled for October 1998. The price is planned to be around $1299 US (currently about £800). Eyelight's convenient upgrade policy will apply also to 'Mage, and users of Tornado 3D will be offered special promotional upgrades to 'Mage when it is released.

More details can be found from Eyelight's web site at: http://www.tornado3d.com.

'MAGE.

Yet Another YAM

A new beta release of the Amiga's best-loved e-mail client is available. Preview 5 of YAM 2 corrects a number of bugs in the previous version and has a number of modifications and additions. Most notably the notorious Smart RE: feature has been removed in response to the latest mail e-standard. YAM2 may be downloaded from the web at: http://www.yam.ch



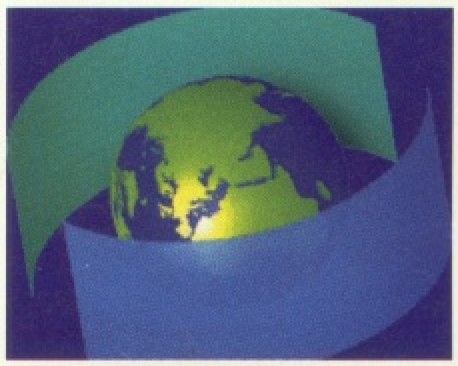
ClickBoom go Z

The Bitmap Brother's PC hit real-time strategy game Z is coming to the Amiga. ClickBOOM offered to pick up the reigns after the Bitmaps had given up on the project, feeling that it just wouldn't be possible to do the game justice. However they have been impressed by what they have seen of ClickBOOM's work, and, according to Bitmap, Simon Knight decided to let them have a go because lots of people had asked about it. He also told us that he had a lot of faith in ClickBOOM – the two companies have had a friendly relationship for a while. He went on to say "I believe they'll do it justice."



Haage & Partner are moving

From the 27th July, Haage & Partner will be situated in a new and bigger location in Glashuetten, near the-headquarters of Amiga International in Langen. Their new address will be:
Schlossborner Weg 761479
Glashuetten Germany
Phone: +49 - 6174 - 96 61 00
Fax: +49 - 6174 - 96 61 01



REBOL is Coming

A shareware release of REBOL is planned for August. REBOL – which stands for Relative Expression-Based Object Language – is Carl Sassenrath's revolutionary new scripting language, designed for inter-platform messaging.

REBOL is aimed to make communication between computers as transparent as possible. It allows the sending of commands via a network to be platform and protocol independent. REBOL is obviously intended to ride the wave of Java's success. Clear parallels can be drawn between the two: both are object-orientated, platform-independent systems. In fact, the REBOL project was initially labelled Lava.

Amiga users have been keenly observing the progress of REBOL because of their affection for Sassenrath. From 1983 to '85 he worked for Commodore and was responsible for the design and implementation of the Amiga Operating system; in 1996 he was head of software development at VIScorp. With a pedigree like that, it's not surprising that Amiga REBOL has been given high priority.

REBOL kernels are planed for a variety of operating systems, including Amiga, BeOS, Linux and Windows. The initial shareware release will followed later by a fully supported commercial version.

To follow REBOL's development, have a look at: http://www.rebol.com.



In Brief

ARexx compiler

Weird Science have announced Rexecute, an ARexx compiler for the Amiga. Rexecute will allow ARexx scripts to be easily translated into executable files and will cost £19.95.
Weird Science may be contacted on: 0116 246 3800.

1GB memory chips

Following the trend for increased capacity storage devices, Hitachi have announced that they will producing 1GB memory chips in the first quarter of 1999.

Initially these new chips are aimed at the high-end workstation and server markets. Not surprisingly, really, because with a price tag of $6000 it while be a while before this technology will be seen in a home PC.

New PPCWorld site

Haage & Paartner have set up a web-site dedicated to the PowerPC. It contains PPC-relevant news, information and links as well as a list of some 60 products in various stages of development which have or are planned to have support for the PowerPC. This page may be found at: http://www.haage-partners.com

Kickstart Amiga Sale

The Kickstart Amiga sale will be taking place at Brook Hall in Ottershaw, Surrey, England, 1 mile from junction 11 of the M25, on Sunday August 23rd, from 1 to 5 PM. There are currently 17 tables booked, and as well as bring and buy opportunities, there will be Sensible Soccer league and a Doom network. For more information, call Rob Gilbert on: 01932 562354, or email: gilbie@arrakis.u-net.com.



Stateside News

by Jason Compton: Editor in Chief of Amiga Report Magazine

Mac Emu Legal Battles?

The sometimes unpleasant rivalry between Macintosh emulation pioneers Jim Drew and Christian Bauer, which many thought had ended, may be rekindling to a new high. Drew, who publishes the Mac emulator Fusion under the Microcode Solutions label in America and formerly developed Emplant for Utilities Unlimited, has publicly indicated that he plans to take Bauer to court under German law for copyright violations relating to Shapeshifter. A couple of years back, allegations of improper programming practices emerged from both the Emplant and Shapeshifter camps, the end result of which saw the Emplant code removed from Aminet. With Bauer's focus almost entirely on BeOS programming, many thought the issue was dead. Apparently, it is not.

Neither party was particularly ready to comment at press time. Jim Drew would only confirm that a lawsuit had indeed been filed. Christian Bauer, on the other hand, asserts that he has not received any notification of a lawsuit or in fact any other direct correspondence from Drew. The exact nature of the allegedly stolen code was not described by Drew in his answer to CU's inquiries.

4000T Confusion

The most confident statement one can make these days about the state of Amiga 4000T manufacture is that it's very difficult to make a confident statement.

The pricey Amiga 4000Ts were placed in somewhat heavier demand when Newtek announced a price-slashing sale on Video Toaster/Flyer systems, with a buy-in price of under $5000 making the systems considerably more attractive. However, this rather unfortunately coincided with a temporary injunction on 4000T production and distribution by Escom trustee Bernard Hembach, who has been fighting with 4000T manufacturer QuikPak over Amiga components for some time.



After that, the story gets complicated. Some units were able to be completed by Amiga distributor Software Hut using semi-assembled QuikPak machines. Reports from the American Amiga media indicate that the embargo has now ended, as the injuction time expired and Hembach was unwilling to pay the court costs for an extension. It is not yet clear if QuikPak has had to restart production.

Appeals to Amiga, Inc to intervene are fruitless, the company has stated, since the issue is out of their hands. The disputed inventory was apparently not part of their Amiga purchase, so they have no say in its final ownership.

PCMCIA Ethernet

National Amiga of Ontario, Canada has announced one of the first bundled Ethernet cards for PCMCIA Amigas (600s and 1200s) based on the generic "cnet.device" driver. The card, named the "NIMIQ", offers both 10-Base T and 10-Base 2 (coax or "thin") Ethernet hookups, two LED indicators, a startup manual and driver software for Envoy, INet, AmiTCP and Miami. Future revisions of the driver promise increased speed and additional software compatibility. The unit sells for CDN$129 (about £53), and is available now. Read on in this issue for a close look at Amiga networking.

Don't look now...

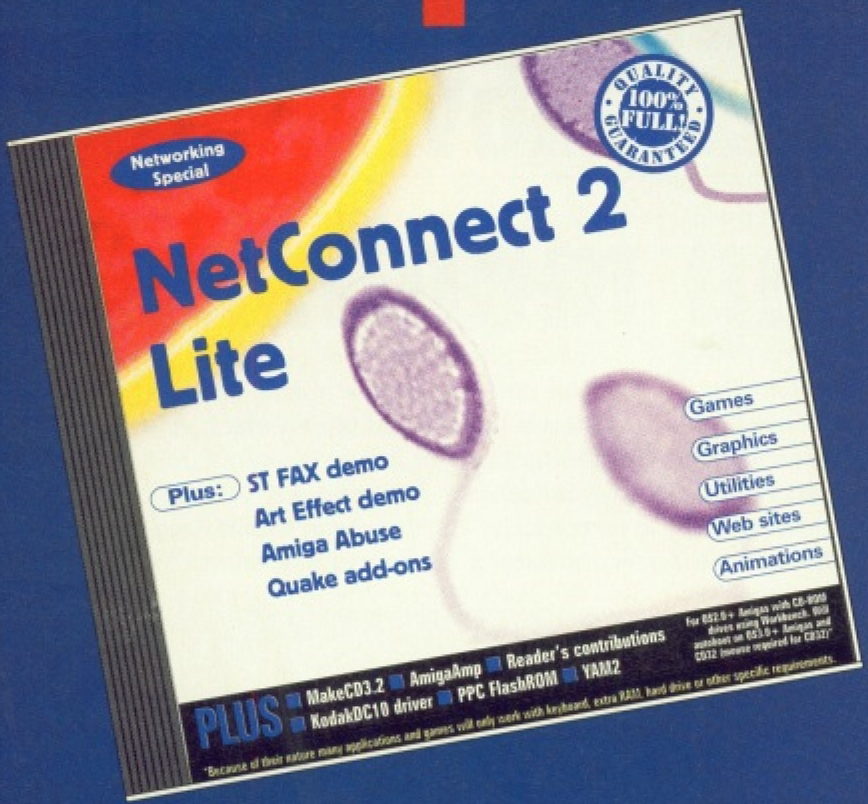
Don't look now, but the American media is starting to take notice of the Amiga again. In-depth coverage of the Amiga, such as it is, tends to be reserved only for those times when a bankruptcy or buyout takes place. But perhaps it's the machinations of the newly hired Bill McEwen that has arranged an upswing in Amiga coverage in the summer months, all without any major financial collapse. US News and World Report, Investor's Business Daily, and the Chicago Tribune's Silicon Prairie magazine are among those who have joined in and suddenly discovered that it's ok to cover the Amiga. The latter went so far as to plaster the Amiga story across its cover. Perhaps they've discovered that the tale of a vagabond computer platform with a scrappy support base makes for very interesting reading. And we all know the Chinese curse about living in interesting times, don't we?

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CD-ROM

Super CD-ROM 26



Welcome to CUCD26. This CD is crammed full of programs, games, utilities, mods and a host of other goodies. If you don't yet have a CD drive, this is your reason to buy one. Prices have never been lower and 650MB of quality software each month is just too good to miss out on.

How much of what?

NetConnect2	12MB	Magazine	26MB
CDSupport	71MB	Online	60MB
System files	14MB	Programming	10MB
CDROM	18MB	Readers	57MB
Demos	30MB	Sound	66MB
Games	95MB	Utilities	19MB
Graphics	50MB	WWW	56MB
PowerPC	17MB		

Making the most of CUCD 26

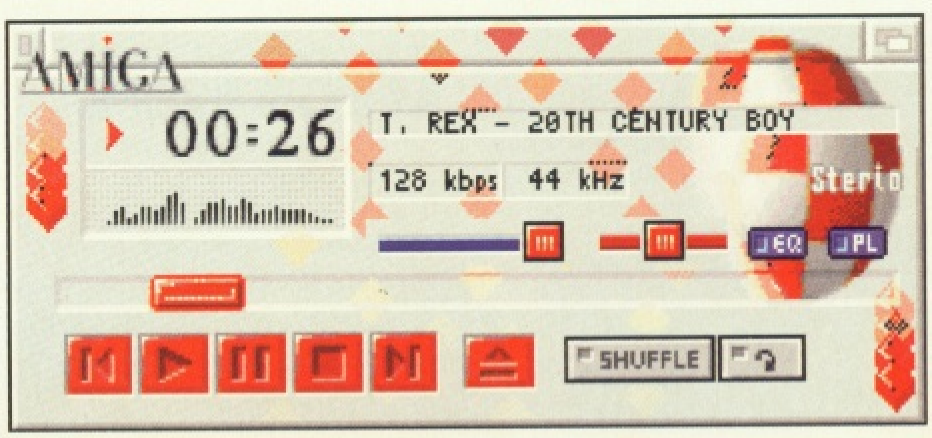
All CUCDs are designed to be used whether you boot from the CD or your normal Workbench. If you boot from the CD, everything is setup and ready to go. If you want to access the CD from your Workbench, you should first run InitCD. This sets up various assigns and paths needed by programs on the CD, so if you don't do it, things won't work. It doesn't make any changes to your system, or write any files to your hard drive, all changes are temporary and can be reversed by running InitCD again. The error some people were experiencing with updatecopy has been fixed now, and the fix means that you won't see the error again, even with older CDs.

Your own custom CD

In the past you had to use whatever file viewers we set up on the CD. Since these had to work with all Amigas they were quite limited. From CUCD12 we decided to allow you to specify how the CD should work on your Amiga and included CDPrefs in the CDSupport drawer. If you have never run this before you should be asked if you want to when you run InitCD. CDPrefs lets you specify which program you want to use to handle each type of file, graphics card users can view pictures in full 24 bit colour, ProjectXG users can listen to midi files through their midi card, people with sound cards can listen to mods with an AHI module player and PowerPC users can use the fast file viewers and mpeg players available for their machines. It also means we were able to provide different defaults for Workbench 2.x users.

Once you have run CDPrefs, your setting will be saved to your hard drive and will be used every time you use this CD or any other CUCD.

Some people had problems with the original use of IDer, partly through a lack of understanding of how it worked and partly through a lack of explanation from us. All icons now use CUCDfile as their default tool, and the previous IDer problems should be a thing of the past. InitCD now copies CUCDfile and it's configuration to your hard drive, if it's not already there. This means that files copied from the CD will now work without needing the CD present. You will almost certainly need to run CUCDprefs to set it up to use your own viewers, but you should do that anyway as it will result in faster access. If you do have any problems, make sure you have run InitCD, at least once.



Highlights of CU Amiga Super CD 26





www.thule.no
CUCD/WWW/www.thule.no
Dave Haynie has uploaded some documents from his days as a senior engineer at Commodore. This give an intriguing insight into the workings of Commodore, some useful technical information and a glimpse of what might have been had the Amiga been managed differently. Some of the files are scanned documents in pdf format, you can view these with xpdf in the C directory of the CD.

TrueTypeLib
CUCD/Utilities/Freedom/, Utilities/TrueTypeLib
The Amiga has long been able to handle PostScript as well as its native Compugraphic fonts, thanks to Type1.library, now there are two implementations of the PC's TrueType font format. Either of these will let you use many of the countless fonts available to PC users.

AmigaAMP
CUCD/Sound/AmigaAMP
OK, I know this was a highlight last month, but it's got better now. The PPC version is much improved thanks to the new ppc.library and you can now change skins from a menu in the program, no more messing with tooltypes.

MidiPlay
CUCD/Sound/MidiPlay
MidiPlay was on the CD this time last year, accompanying ProjectXG, now it has been updated. If you have any MIDI hardware, this is the program for playing your MIDI files.

PPCRelease
CUCD/PowerPC/FlashUpdates, PowerPC/PPCRelease
These new libraries and SCSI devices make a huge difference to a PowerPPC card. Most of the old problems have now gone and the whole system is much nicer to use. Make sure you read all the accompanying documents very carefully before you install anything, and don't attempt to run the flash update until you have installed the new 680x0 libraries exactly as described.

GadToolsBox3
CUCD/Programming/GadToolsBox3
GadToolsBox was the favourite GUI creation tool before MUI came of age, and it's still a favourite with non-MUI programmers. This is a new program, not an update, by a different author, but it is compatible with files from the previous GadToolBox.

STFax
CUCD/Online/STFax
STFax got 94% when we reviewed it, now you can see for yourself. If you have already bought STFax, updates are on the Active web site in the WWW drawer of the CD.

ArtEffectDemo
CUCD/Graphics/ArtEffectDemo
The Amiga has always had more than its share of good graphics software, and now you can try another one for yourself. This is a usable demo version, more than enough to give you a good idea of what the full package is capable of.



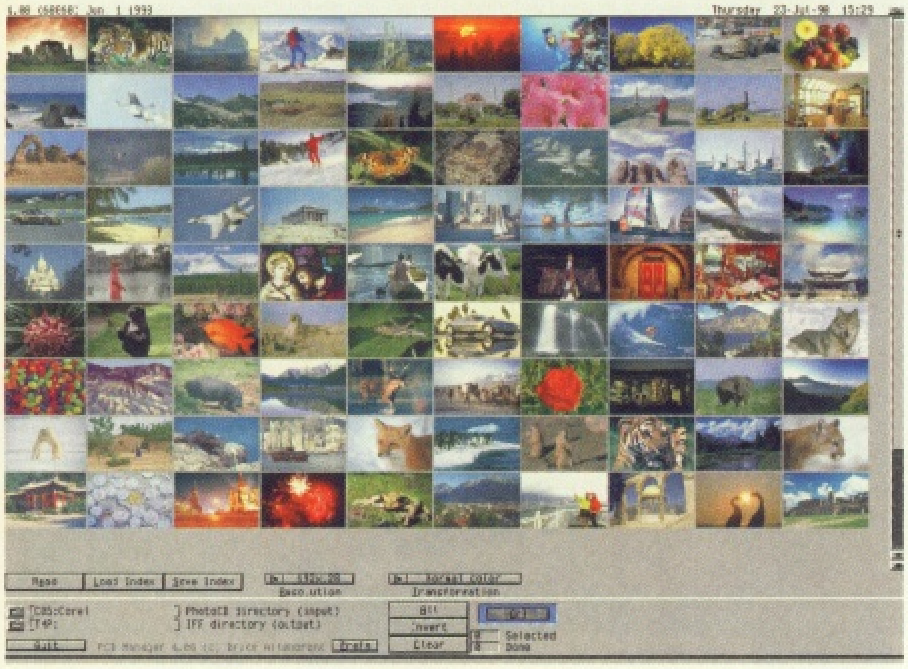
Abuse
CUCD/Games/Abuse
It seems that every month another software house releases the source code to a game that is immediately ported to the Amiga. This month the game is Abuse and we've brought you the full Amiga port, complete with all the support files and some extra goodies too.

Making things work
Wherever possible, we have tried to make software work straight from the CD, this isn't always possible for a number of reasons. Some programs need to be installed to your hard drive to work, often requiring specific system files. These files are usually on the CD so running InitCD often helps here.

Most software contains a list of system requirements in the documentation, and some will not run unless you have the required processor, memory operating system version or chipset.

Some programs, particularly demos and games are written in an OS illegal way. This can mean they only work on specific machine specifications, sometimes the readme states this, but not always. Many demos are intended to be run for a shell, the icons we add simply start them from a script. In some cases this will not work, especially demos that need a lot of Chip RAM. In this case you will need to boot without startup-sequence and run the program from the shell. Your Workbench manual should explain how to do this.

What's on this month's CU Amiga CD?



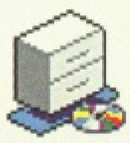
NetConnect2 Lite:
One of the most eagerly awaited programs of the year. Internet users everywhere have been clamouring for this major update to NetConnect, and we got a special Lite version for the CD before the full version had even been released. With most of the features of the full version, plus a special upgrade deal, this is a must-see for anyone on the Internet or thinking about it.

CDSupport:
This contains various support files, such as mod players, anim players, GMPlay, MUI, ClassAct. Most importantly, this is where the CDPrefs program lives. With this you can customise your CUCD to launch your choice of program for each type of file. Two other notable icons in here are Docs.guide, with links to all the program documentation files on the CD, and Index. Run Index, type in the name of a program, or part of it, and it will search the contents of the CD for you. You can either search the current CD or the index files of all CUCDs since number 4. CDSupport also contains icons to start ProNET in various configurations, ready to use when linking a CDTV or CD32 to another Amiga.

CUCD:
The CUCD drawer contains most of the CD contents, here is a selection of what each drawer holds.

PowerPC:
This month we have a PowerPC drawer, containing several important updates. Most significant is the new PowerUp software from Phase 5. Make sure you read the documentation very thoroughly before doing anything, since a mistake when flashing your boot ROM can render your card unusable. This isn't the only PPC software on the CD, there are several programs that work with both 680x0 and PPC machines in the other drawers of the CD.

CDROM:



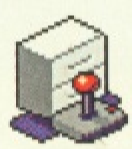
The CDROM drawer contains updates to IDEfix and MakeCD. The new version Make CD contains some significant new features. We also have MiniCD, an audio CD player and our usual collection of all the CD ID files we could lay our hands on.

Demos:



Another 30MB of pulsing, throbbing entertainment for all you demo fans out there.

Games:



We have another Total conversion add on for Quake, held over from last month due to lack of space on the CD. Abuse is another favourite that's recently been ported to the Amiga. We also have WolfPac that was included on last month's floppy disks, so all you CD users don't feel deprived, and the latest updates to Foundation.

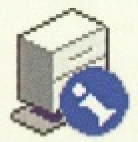
Plus many more full games and demos.

Graphics:



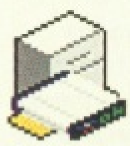
This month we have a several anims for you, plus a demo of the new Art Effect. There are also several other graphics utilities, including one to download images from the Kodak DC210 digital camera, and of course we have the ever-popular icon collections.

Magazine:



The Magazine contains support files for the various features within the magazine, such as the source code for the C tutorial, the programs reviewed in InternetPD, all of the programs mentioned in the Networking feature, Digital Art and Wired World. There is also some more information for SoundLab that wouldn't go in the magazine, plus the original mod of last month's audio track for you to tinker with.

Online:



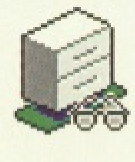
We have three very popular programs for you this month, the latest preview of YAM2 and new demo versions of STFax and AWeb. There are also upgrade patches for the commercial STFax in WWW. The CU amiga mailing list is alive again, read the archives to see what people said then and now wished they hadn't.

Programming:



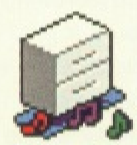
The latest help and advice from the Blitz and AMOS mailing lists is here, together with a new version of GadToolsBox. There is also the latest version of GMS, the Games Master System, and a set up patch updates for StormC.

Readers:



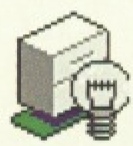
Nearly 60MB of your own creations, including a few that were received just before CU Amiga moved offices last year and have only just resurfaced. If you thought we'd forgotten you, have a look in here. It is the usual wide variety of modules, graphic, game and utility programs.

Sound:



Plenty of modules for you to either listen to, or tinker with following last month's special. There is an update to the superb AmigaAMP, updated AHI drivers, more samples and several MIDI utilities.

Utilities:



Once again the Utilities drawer contains many different programs to make your Amiga faster, better or just nicer to use.

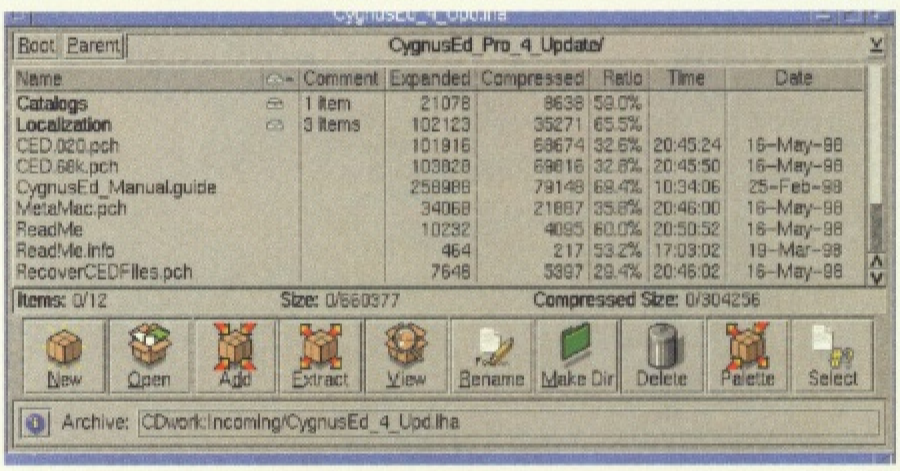
While this drawer generally has a lot less MB than others, some of the smaller patches and commodities are almost indispensable once you get used to using them.

WWW:



Some more web pages for you to browse offline, including the CAUCE anti-spam site to go with this month's Wired World, and a real treat from www.thule.no.

We also have the Active Technologies web site, containing not only information NetConnect2 and STFax, but all the upgrades for STFax, from 3.0 to the latest 3.3b.



Order by Access/Visa/Delta/Switch/P.Order/Cheque. 2% Surcharge on Access/Visa (not debit cards). All prices fully inclusive of VAT. Postage and Packing £7.00 + VAT (24 Hour) and £15.00 + VAT (Saturday). Larger Items £10.00 + VAT. Prices and specifications may change without notice. Please telephone to confirm pricing/specification/availability before ordering. E&OE. All trademarks acknowledged. Goods not sold on a trial basis. All orders subject to our terms and conditions of trading, available on request.

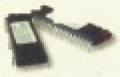
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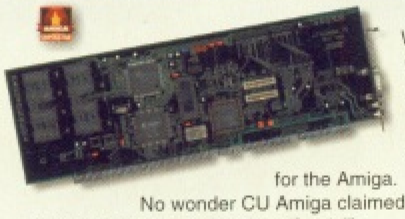
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- Output Picasso screens to VCRs, television sets and studio equipment
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AsimCDFS CD-ROM software integrates sophisticated CD-ROM technology into the Amiga operating system.

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Surf the Web on your Amiga!

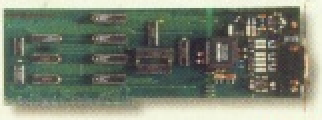
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Prelude



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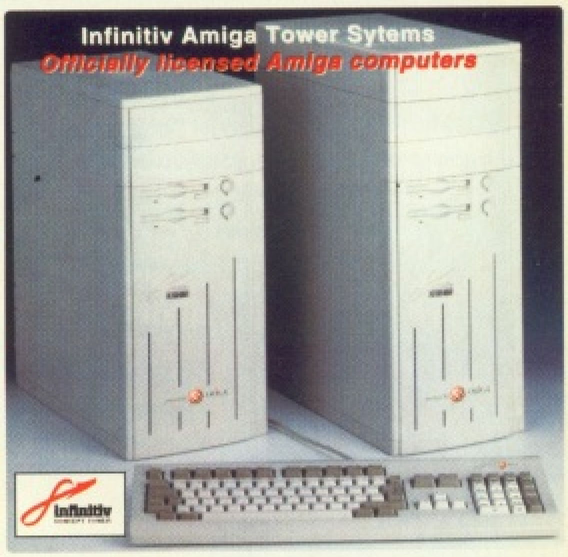
Infinitiv Kit-Z2* **£279.95**
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- Z2 board

*Extra 5.25" Bay required with Z2 if 1200 accelerator fitted

Infinitiv Kit-Z3 **£449.95**
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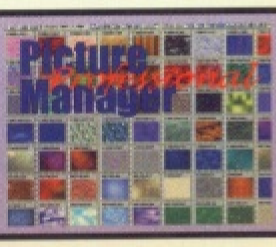
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COVER DISKS



Netconnect 2 must be about the most eagerly awaited Amiga software package in a while and finally it is here. We'll have a full review next month, but in the meantime the lite edition can be found on the CD. Disk users will have to do without it as Netconnect lite is 11MB, sorry guys we haven't forgotten you but there's not much we can do!
On the floppies you will find a collection of Networking software to tie in with our Networking feature. They are on the CD too, of course! You will find everything you need (apart from the cables!) to connect two Amigas together or even an Amiga and a PC. Turn to page 36 to read all about the possibilites networking opens up.

Installation and setup

Installation of Netconnect is easy. There is an installer on the CUCD which will install it for you. Refer to the following pages to find out how to configure it.
In Shadow of Time can be installed by booting from hard drive and dragging the drag_me_to_hd_and_click Icon to where you want the program. Then click on the Icon and hey presto , it'll install for you!
The networking software installs in various ways, please refer to the readme on the floppy disk for more details.

NetConnect 2

NetConnect was designed to provide a straightforward introduction to the Internet. As well as containing all the programs you need for most Internet usage, it is easy to set up and get online. Version 2 is even easier than its predecessor. Having said that, the Internet software does need to be correctly configured to work properly, so take a couple of minutes to read through this before commencing installation. The setup software will need to dial in to your Internet account, so make sure your modem is connected and switched on, and that you have your account details to hand.

Installing NC2

Firstly, you must use the supplied installer, manual installation is not feasible. If you are at all wary about installers, use expert mode and log all actions to a file. You will be asked which parts of NetConnect2 you wish to install. If you already have a complete installation of MUI 3.8 you should omit this part of the installer, but leave all other options selected. Any custom MUI classes used by the NetConnect programs will be installed anyway, as long as you have a basic MUI setup.

You are given the choice of adding the NetConnect dock to WBStartup. While the dock itself only uses a small amount of memory, it will also load MUI if nothing else is using it. If you don't have memory to spare, especially if you are not using other MUI programs all the time, it may be best to skip this and run the dock from its icon when you need it.

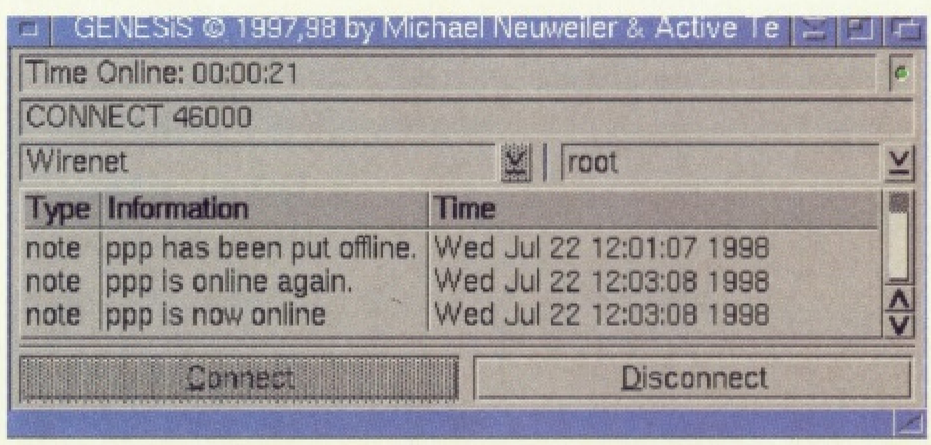
When asked which programs to install, leave them all selected. They will be installed into the newly created NetConnect2 drawer, so it doesn't matter if you already have older versions on your hard drive. The installer will ask if you would like to launch the NetConnect Dock to register yourself, click Yes. The dock will be opened, but you will not be asked to register since this is a demo version.

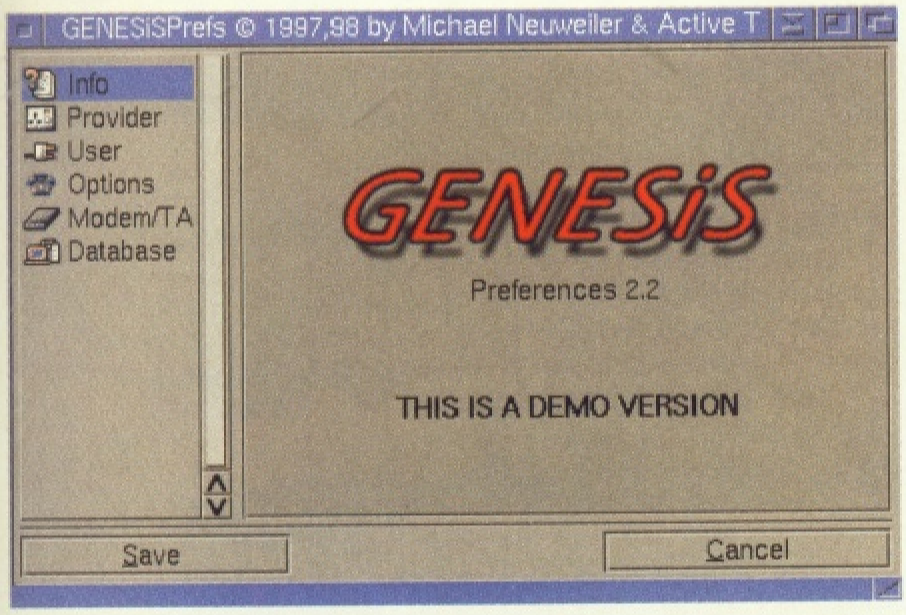
Next you will be asked if you wish to run Genesis Wizard. This is necessary to set NetConnect up to work with your Internet account, so make sure your modem is switched on and reply Yes. The Wizard will start and the installer will exit. You now have all the software installed and it just needs to be setup.

Running the wizard

The Wizard will prompt you for some information about your ISP and account and then dial in to get whatever other information it needs. The first thing it asks for is your serial device and modem. Leave the serial device at the default setting unless you have a third party serial card, in which case you will need to check the documentation for the card to get the name of the device. The name is case-sensitive, something that has caught out more than

▼ After a couple of minutes work, it's all done. Genesis is now connected to the internet and ready to go. Note the new displays of connect speed and online time.

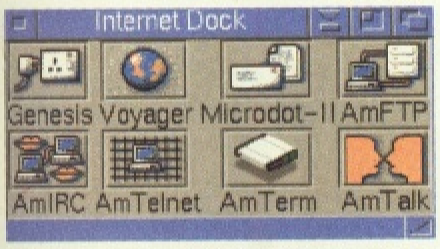




▲ The main Genesis preferences program. You can use this to add to or alter the settings obtained by the Wizard if you need to.

a few HyperCom users.

Select your modem from the popup list. don't worry if yours isn't available, just pick Generic. All this does is set a suitable modem initialisation string. The default generic setting should work fine with most modems. When you move to the next page you will see the initialisation string chosen by Genesis Wizard. Once you are online you can mail your ISP (or check their website) to find out what they recommend as the best modem setting to use for your modem and their service. Before you click on Next, make sure your modem is switched on and nothing else is trying to use it. Quit any fax or comms program you may have running.



▲ The NetConnect dock, use this to control everything else.

Now you need to enter the details needed to login into your account, this information should have been provided by your ISP when you opened your Account. You can enter multiple phone numbers, separated by a |. These will be dialled in order until a connection is established.

The next page should usually be left at the default settings. Logging in without a login script is often much faster, so only use a script if the other methods fail. The next window is where all the action takes place, if you have elected to not use a login script, you only need to click on Dial, wait for Wizard to login to your account and save the results (if you are using a script you may need to ask your ISP about the responses to certain prompts).

That's it, now you can click on the plug in the NetConnect dock to start Genesis and press connect to go online. However, there's a little bit more work to do before you can use NetConnect fully.

Configuring the clients

GenesisWizard can only set up the basics of establishing a connection to the Internet. You still need to configure the individual programs. The most important step is to set up MicroDot-II to handle email, once you've got that working correctly you can at least talk to other people and ask their help if you get stuck with anything else. So start MicroDot-II from the dock (the button with a picture of a letter on it) and select Accounts from the Settings Menu.

NetConnect2 supports multiple users or accounts, for now we will stick with the standard "root" account. Select root and type in your name and organisation name if you wish) in the relevant boxes. Switch to the Network tab to set MicroDot-II up for your mailbox. Type in your mailbox name and the name of your ISP's POP3 server, along with your password (this is usually the same password as used for dialling in). The POP3 server is the address of the machine that holds your email, the SMTP server is the one used to send outgoing mail, sometimes these are the same. Your service provider will tell you the addresses of these servers, and the news server set on the News tab.

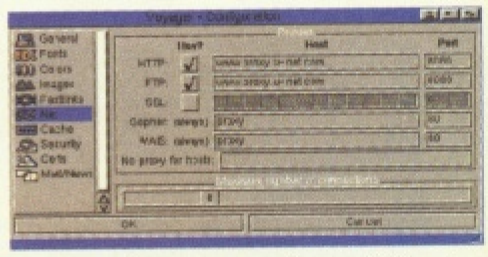
It is important that you tick the "Delete mail on server" box. If you don't, your old emails will be left on the server and MicroDot-II will have to check these against its internal list of mails already collected. Gradually the mailbox will fill up and the time taken to scan the mails before anything can be downloaded will increase. Eventually you may find yourself unable to collect mail. On the News page, set the mode to offline. This tells MicroDot to collect all new news as a batch, ready for offline reading, only use the online option if you have a permanent Internet connection (or someone else is paying your phone bill).

Setting up MicroDot is the most important part, but there are a few things to do with the browser to

Mailing lists

There are a couple of mailing lists you could subscribe to to help you once you are online. The NetConnect list is for discussion of all things related to NetConnect, to: subscribe, send a mail to: netconnect-request@vapor.com with just the word ADD in the message.

The CU Amiga mailing list has much more general discussions, you subscribe by sending a mail to listserver@amiga.co.uk with the following lines in the message:
subscribe
amiga-cu-list



▲ Setting up Voyager to use a web proxy. This is not essential, but a good proxy server can make your web browsing faster.

Signing on

So what do you do if you aren't on line yet? Get a modem and sign up! The following table represents the popular choices of internet service providers amongst a poll of Amiga internet users who answered our website poll. The ISPs included in the table are the ones that we felt were voted for by enough people for it to be meaningful.The service quality and Amiga value columns represent the average of voter's opinions out of ten.

As you can see, the clear winner for Amiga support was Wirenet, hardly surprising given that they are an Amiga only internet service provider. The keen-eyed amongst you may have noticed that Neil Bothwick, CU Amiga's CD compiler and comms guru runs Wirenet, so you may wonder about bias – so did we!

Judging by the large number of votes he got we reckon he helped tilt things in his favour by mentioning the poll to lots of his users, but the similarity in score for overall service quality between Wirenet and U-net (who actually provide Wirenet's lines) suggests that it isn't too innacurate. The fact that the lowest score he got was a solitary 7 indicates a high level of satisfaction! Netcom won out slightly on service quality, but didn't score too well for Amiga suitability.

FCI was voted for by 11 users, scoring very average, but due to some suspect voting (I think someone doesn't like them!) did not get included. AOL and Compuserve managed the dubious achievement of getting the lowest scores while being very expensive – Compuserve being the overall loser on 2.75 for service and 1 for Amiga suitability.

Foreign ISPs which did well included Demon Netherlands, Algonet (Sweden), Mweb (S.Africa) and Amitar and Australian Internet in Australia.

ISP	email addresses	web space	k56	x2	isdn	startup cost	monthly	service quality	Amiga value
Wirenet	unlimited	5Mb	✓	✓	✓	£14	£14.25	9	10
U-net	1	5Mb	✓	✓	✓	£12	£12	8.6	8
Netcom	1	5Mb	x	✓	✓	£25	£10	9.25	5.5
Demon	unlimited	15Mb	✓	✓	✓	none	£11.75	7.1	5
UKonline	1	unlimited	✓	(sept.)	✓	none	£11.99	6.45	7.5
Enterprise	unlimited	15Mb	✓	?	✓	none	£11.75	6.1	4.2

Serial and Connect speeds

Genesis now shows the speed you have connected at. If this shows your serial speed (e.g. 38400 or 57600) instead of the speed of the modem connection, add W2 to the end of your modem initialisation string.

The Amiga's serial port is showing it's age these days, so running at the higher serial speeds will actually make your connection work slower. If you have a 68030 or higher, 56700 is usually the safe maximum for the standard serial port, anything higher is likely to give trouble.

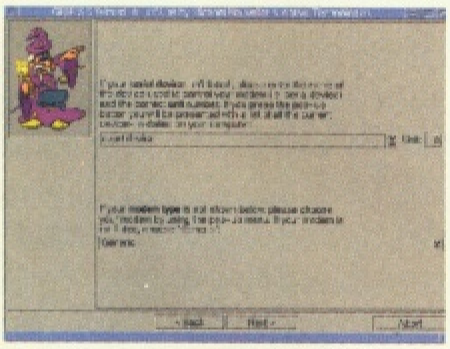
make things work as smoothly as possible. Click on the globe icon to start Voyager and select General Settings from the Settings menu. Go to the Mail/news page and set your mail address, name and SMTP server as you did in MicroDot, this will let you send mail to addresses linked from web pages. If your service provider has a web proxy, you can set this on the Proxy page. A web proxy is a server that caches web pages and other files, so if the page has already been visited by someone else, the proxy will have a copy to send to you, instead of having to fetch it from halfway round the World.



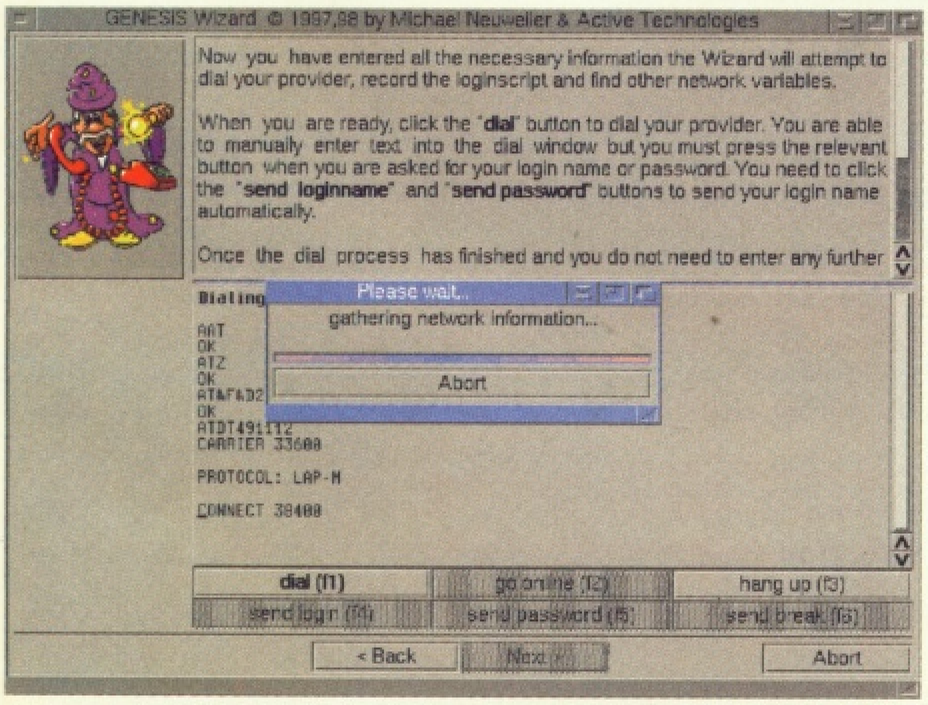
▲ **This is where you provide the information to login to your account. Login names and passwords are usually case-sensitive, so make sure they are exactly as given by your provider.**

That's about it. While there is a lot more you can do to configure the individual programs to work as you want, such as choosing different fonts for the browser display, everything should now work as soon as you connect. So click on Connect, fire up Voyager and have a look at http://www.cu-amiga.co.uk.

▼ **If you are using the standard serial port, you can leave your settings at the default, otherwise make sure you have spelled the device name "exactly" right.**



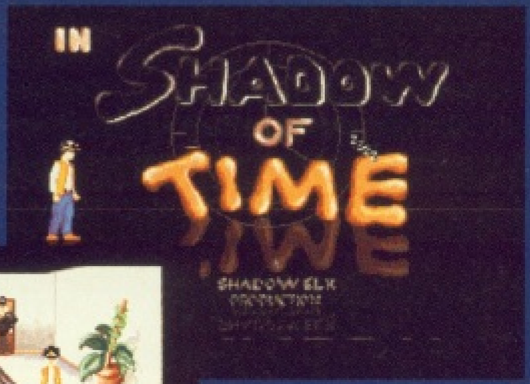
▼ **Genesis Wizard has now dialed into the account using the login details provided and is gathering the information it needs. Once it has finished, it will disconnect and save all the details to your Genesis configuration file.**



In Shadow of Time

Shadow of Time is a new demo of a point-and-click adventure game for the Amiga. It is similar in style and owes much to classics such as Future Wars and Monkey Island.

The control method is simple. The game may be played entirely with a mouse. Clicking on an object or location with the left mouse button will cause your character to move to that spot. Clicking with the right button will bring up a menu with a list of possible commands. With these you can pick up and manipulate objects or interact with other characters in the game. Full instructions on how to install and play the game are included on the disk.





In this demo version there are a few restrictions. The save and load game options do not work, there are only a couple of rooms to explore and, due to size restrictions, there are few sound effects.

Networking software

To tie in with our networking feature this month, we have included a selection of appropriate and useful software on the cover disk. When you have unpacked the networking archive from the disk, full installation and operation instruction can be found with each individual piece of software. For the hows and whys of networking, read our feature.

The selection on the disk includes: SerNet, a simple networking package that allows two Amiga to communicate via a serial cable; ParNet, similar to SerNet but works with a faster parallel cable; ProNet, a more powerful package with drivers for several different connection types; and PC2Amiga, which allows you to hook up and access a PC from your Amiga.

MegaBook

MegaBook is a fast and powerful address book utility. It allows you to store the names, address, phone numbers, e-mail addresses, etc. of your friends and colleagues. But as will as being simple to use, MegaBook has many features that you will not find in other similar programs. For example, it can tone-dial phone numbers and send e-mail or faxes in conjunction with your comms software. Full instructions are included on disk.

Getting NetConnect 2 – Upgrade offer

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This lite version of Netconnect 2 is perfectly useable, but it is time limited – 1 hour at a time, and it will expire in 3 months – and limits you to 10 dock icons. The full package is available from Active Software for £59.95 – but if you cut this out and include it with your order you will get a tenner off, making the package only £49.95 plus delivery. Please note that this offer is only valid for Netconnect itself, not the bundle packs which are already discounted. See Active's advert on page 60 of this issue or call them on: +44 (0)1325 460166.

See you in Cologne, Germany

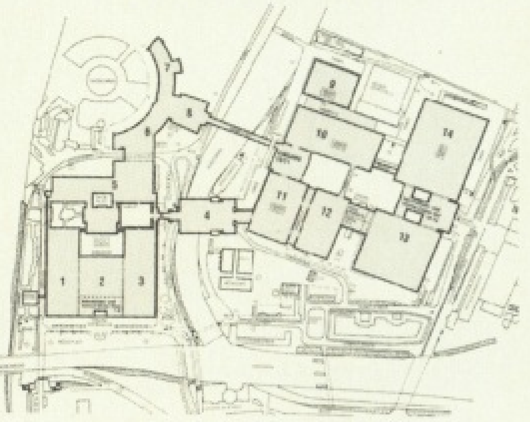
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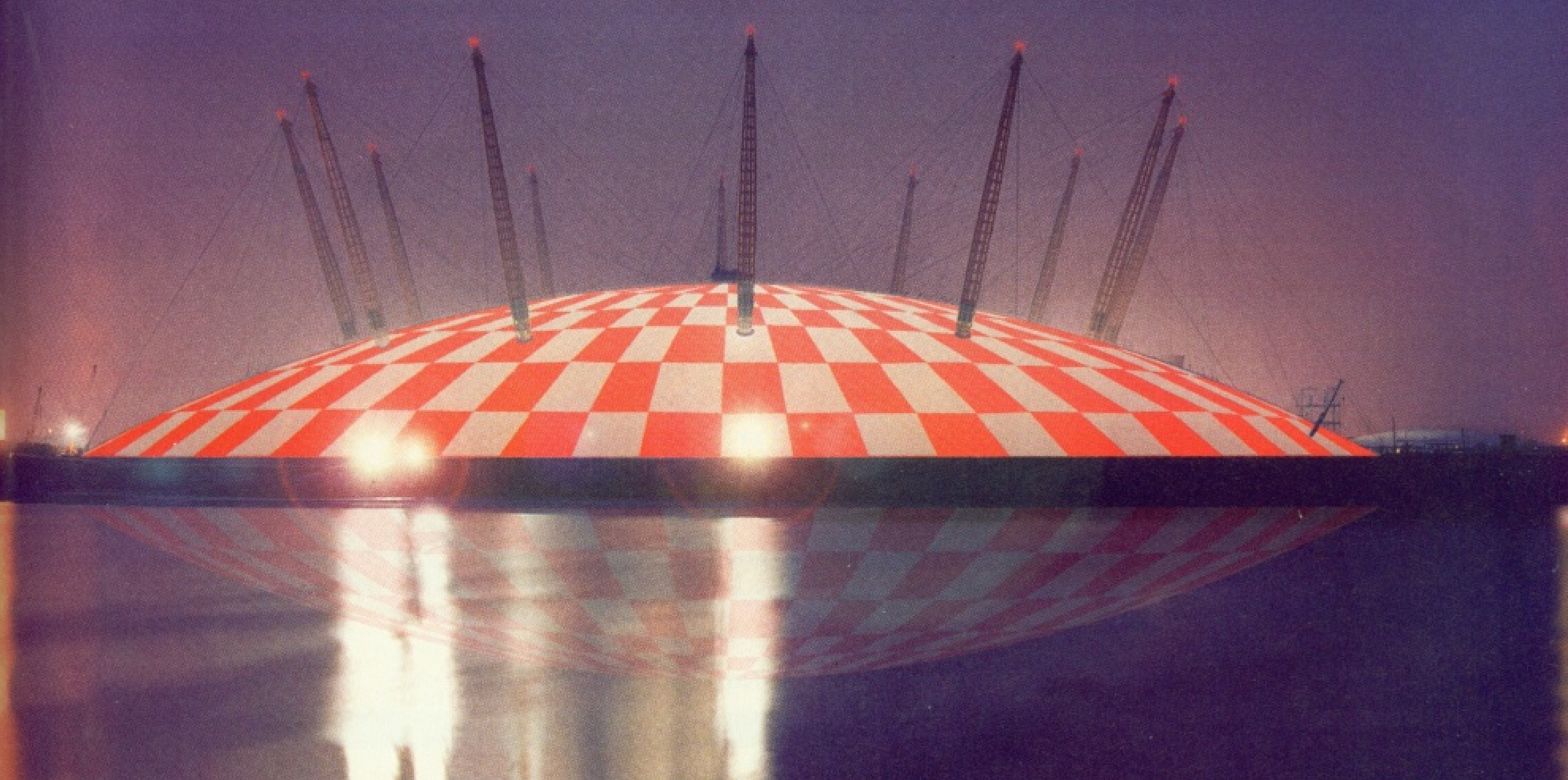
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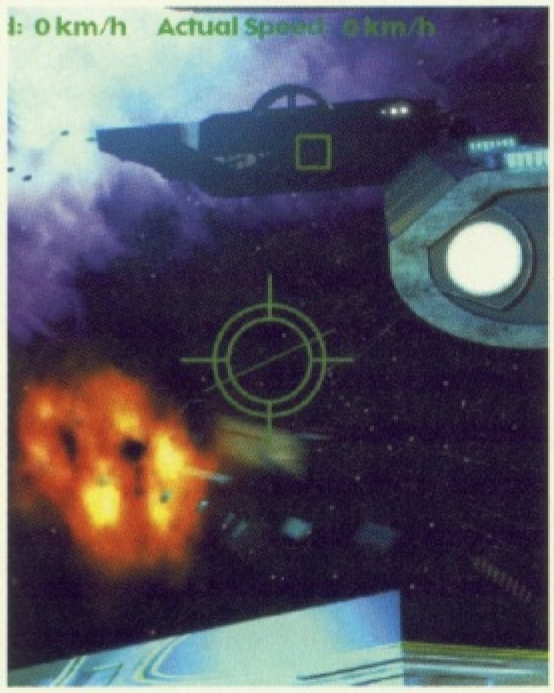
EDITORIAL



Hi! Welcome to the first CU Amiga Magazine of a new Millennium, and hopefully of a new era too. Assuming that the world didn't end on December the 31st, that is! You'll find this issue packed with features, tutorials and reviews, including the one we've all been waiting for, the first of the new generation Amigas.

Actually, that's not true, I've been lying to you. It isn't the new Millennium, it's late July in 1998 and I'm not even Tony. He's off in France having a holiday while the rest of us slave over tight deadlines. Actually this is Andrew, introducing a rather odd little feature. We've been wracking our brains for a way to convey the possible changes we can see the recent announcements from Amiga Inc. could cause, and this seemed like a way of doing it that would be both fun and informative.

No gibberish about copies of CU falling through time warps or anything, the truth is quite simple; I made it all up. In this feature you will find a review of a possible new Amiga which is based partly on what Amiga Inc. have said, partly on reading between the lines, guesswork based on a knowledge of where the rest of the computer industry is heading, and (particularly in terms of design decisions) on the basis of what I think would be a good idea. No such machine will ever come out, although I expect that what does come out won't be a million miles away. As it stands right now, there isn't even any reason to believe that Gateway will be producing an Amiga. You will also find a news page which contains news that might happen. None of this is purely invented in that it is firmly grounded in reality and reports on some of the things that might result from the developments of today, but it is fiction and should be regarded as such. Lastly, you will find a preview of a game which might well exist one day. Explorer 2260 is being written for PPC at the moment, but World Foundry have considered a Superchip version. The text should give you some idea of what to expect, but blame me not them if it doesn't work out like that! Thanks to Chris and Rob of World Foundry for help with this, notably the excellent mock-up of an Explorer Screenshot. Remember that this is a mock up and the final game will not look exactly like this, but I think it is a good guess at how games on the new Amiga could look.



Read, speculate and have fun – but please, don't ring anyone up trying to buy the products detailed herein!

(Not) Tony Horgan, Editor

NEWS

25 Picasso 5, Black and White, DVD-RAMs and OutsideIn
A quick look at what the future might just hold. New video cards, DVD writers and the MediaPC.

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32 Explorer 2260 Superchip edition preview
With the new Amiga aimed squarely at the home, games will be important – but what will they be like?



news

Picasso 5 Due

Village Tronic have announced the impending release of the Picasso 5 graphics card for the Amiga Classic line. Based on the Savage 3D chip from s3, it promises to outperform the Cybervision PPC line of graphics cards, swinging the long standing Amiga graphics card competition back Village Tronic's way.

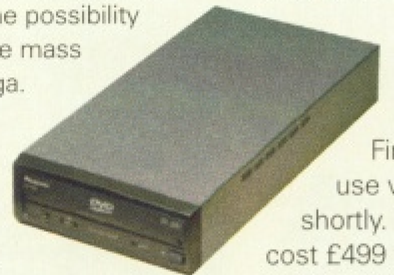


The Picasso 5 will initally come as a PCI card which will be sold primarily as a Macintosh card, but will include Amiga drivers for PCI based Amiga systems such as the Pre/Box and the BoXeR 2 due in the middle of the year. Shortly afterwards a version will be released which plugs directly onto the expansion slot of the Picasso 4, allowing current users to upgrade, but VillageTronic have said that they are unlikely to offer a straight ZORRO version of the card. They are in talks with phase 5 over a version of the card that could be used in the very AGP like graphics slot of the Pre/Box.

The Picasso 5 will offer resolutions 1600 by 1200 in 32 bits, fed from a 250MHz RAM-DAC. It has motion compensation and a 60MHz VIP port for HDTV resolutions and effective MPEG2 playback. It is fitted with 8 MB of 125 MHz SDR SGRAM with a 64-bit synchronous bus, and has 3D features including 5m triangles/second, 125m pixels/s trilinear fill, texture compression, 16 or 24 bit Z buffering and a 128 bit dual rendering pipeline. Obvious similarities in the feature set with the superchip hardware lead Village Tronic to claim that it will be the ideal upgrade for people planning on using OS5 on PPC machines.

DVD-RAM is here

Eyetech have unveiled their new DVD-RAM drive package for the Amiga, the EZ DVD-RAM. The drive unit consists of an external Matsushitu LF-D111 mechanism. DVD-RAM brings the possibility of cheap, re-writable mass storage to the Amiga. Blank single-sided discs retail at £25 and can store 2.6 GB, the double-sided type £40 and 5.2GB. This works out to about a penny per megabyte. The drive can also read most standard CD and DVD formats: DVD-ROM, DVD-Video, DVD-R, CD-Audio, CD-ROM, CD-R, CD-RW and Video CD.

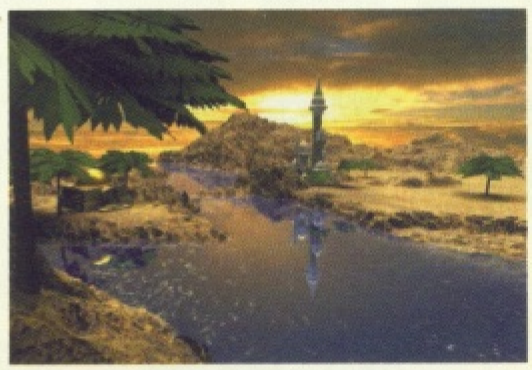


Initially the drive shipping is an ATAPI unit, aimed Eyetech say at the Classic Amiga market. They have plans to release a version with a Firewire interface for use with the new Amiga shortly. The EZ D-RAM will cost £499 and comes with the latest version of MakeCD (including a UDF filing system) and a free disc.

It's Black & White

English game-smiths Lionhead Studios have announce that they will be porting their dark fantasy strategy game, Black & White, for the OS5 Amiga.

Black & White is a god game with a difference, being set in a world of sorcerors and magic, skeletons and ghouls. It was critically acclaimed when released for the PC earlier this year and has been wooing gamers with its stunning 3D visuals and absorbing gameplay ever since. The developers claim that the new Amiga's advanced multimedia capabilities will permit further impoving the look and playability of the game.



Lionhead Studios was founded by old Amiga hand Peter Molyneux, who was made famous for his work with Bullfrog on titles such as Populous and Syndicate.

Outside In!

Power Computing and DCE are working on a PC on a card for the Amiga. Along the lines of the InsideOut card from Access systems but in reverse, this will initially be a Zorro-3 card based on the National Semiconductors/Cyrix MediaPC, a single chip PC. The final form factor is something that has yet to be decided upon, with DCE even looking into the possibilities of an A1200 accelerator slot version.

The MediaPC is an all in one solution which includes a 275MHz Cyrix Pentium class procesor, SVGA graphics, PCI interface, Soundblaster 16 compatible sound and PC BIOS on a single piece of silicon. No price is yet fixed, but Power Computing say the board should be pretty cheap – probably somewhere in the region of £250.

A version for the superchip Amiga is not planned immediately; a spokesman for Power said that they would want to see if software emulation of x86 for the new Amigas was close enough to the MediaPC performance to significantly undercut the market. Although there is as yet no commercial PC emulator, an early test version of PC-Task is running at around 166MHz Pentium speeds.

Disclaimer: Please note that these are not real news stories! Readers should not assume a factual basis, they are merely speculation.

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GATEWAY A2-1000



■ Price: £349.99 ■ Developer: Gateway/Amiga, Inc. ■ Available from: All good stockists.

At last the waiting is over. We finally wave goodbye to the wilderness years with this, the first of the new Amigas.

The Amiga Inc. OS4.0 developer's system released last December may have been a seriously hot machine, but barring a few features and oddities it was basically the same thing we've been using for most of the 90's. What we have all been crying out for over the past half decade or so is genuinely new machines; new hardware, new Operating System, new paradigms. Here, thanks to Amiga, Inc. and Gateway, it is.

The Amiga A2-1000 is the first of a planned range of 3 Amigas from Gateway, the PC manufacturing company that owns the Amiga, Inc. subsidiary. It is a true OS5 machine, that is to say that it uses the latest version of the Amiga's operating system, and is based on the MMPU-128, the so-called "superchip" from [illegible]. It is the cheapest and first in the range, designed squarely at the home PC market, a sizeable chunk of the computing sector which has until now had to do with games consoles which do very little other than play games, or PCs/MACs, which are business machines forced into extending their use beyond sensible limits.

Out of the box

Straight from the box, the A2-1000 is a breeze to set up. You get a main box, a stylish hybrid of computer minitower and domestically acceptable mini Hi-Fi system, a mouse (bit of a cheapo one, but it will do), a gamepad, a standard Gateway keyboard housed in matching black case, and a box containing a single DVD-ROM disk and manuals.

The supplied DVD-ROM is the Amiga, Inc. OS5 DVD, release 1. It contains the OS5 installer, although in this case the OS is factory installed to the A2-1000's hard drive. There is also a good collection of shareware and freeware games and apps, in fact the entire contents of the aminet/os4 directory. Finally there is a collection of demos, movie clips and previews. Amiga, Inc are planning on a new release of the OS5 DVD-ROM 2-3 times a year, but don't worry, they don't anticipate major updates to the OS, this is mainly to keep the shareware and demos up to date.

The manuals are clear, simple and well laid out. There's a thin setting up guide, a guide to OS5, and a slightly meatier guide to shell, Shellscript and Rebol. Most current Amiga enthusiasts are likely to find the OS5 manual pretty simplistic and lacking in technical depth, but that is to be expected – this is after all aimed at a wider consumer market. We'll have to wait a little while for anything approaching the old Addison-Wesley hardware reference manuals; Amiga, Inc. may need a bit of persuading, as they have a thing about people not programming the hardware too directly. I am sure they will soon enough find out that the Amiga programming community goes its own way and

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THE SPECS

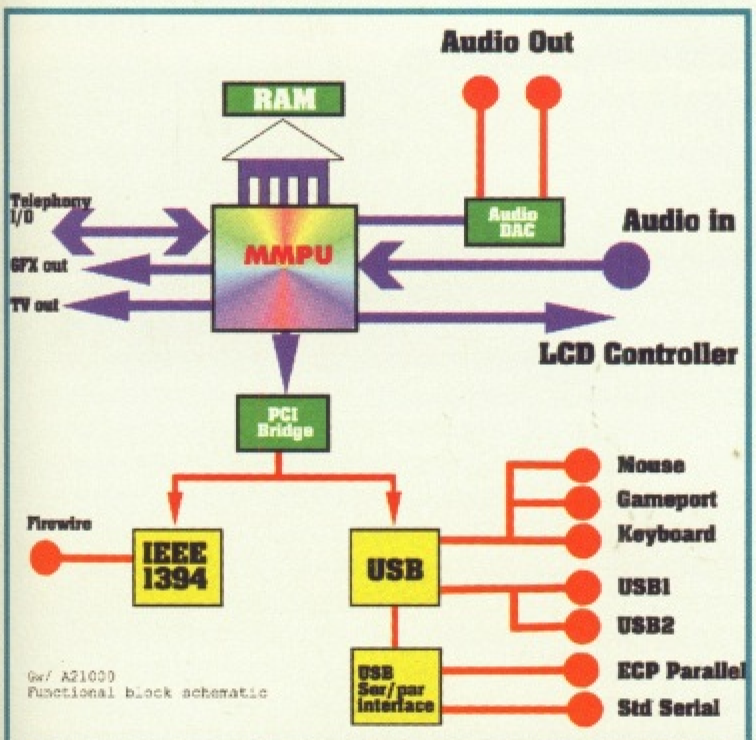
Ram:	64Mb
Processor:	TOP SECRET
Hard drive:	2.1Gb firewire LS120 superfloppy
DVD-ROM:	4.7Gb double sided firewire
Graphics:	to 1924by 1280, 75hz @ scan 15Khz-64Khz
Sound:	Fully AC-3 compatible surround. Stereo 24 bit in/out up to 96 KHz
3D:	400 Million pixels/s, up to 8 million triangles/s
ports:	Scart, composite, SVGA, Audio in/out, firewire, USB, ECP parallel, Serial, phone
telephony:	56k modem and ADS

will be hacking about and "hitting the hardware" in no time. On a brighter note for those wanting to get into the more serious side of their new Amiga as soon as possible the Shell/Rebol manual is excellent, and covers an area which Commodore rarely managed to do well.

Plug and play

In true Amiga fashion, this is a switch on and use system. Plug the parts together, connect it to a TV or SVGA monitor, jab the on switch and you are almost immediately presented with the new Amiga boot screen, a rather impressive bouncing boing ball which trails weird plasma lights, illuminating the Amiga logo backdrop as it passes.

Long boot times had been a worry with the new, more complex OS; thankfully they haven't materialised, a definite nod to the target audience. Apple got the boot-up time for MACs about right as an office machine, in that they give you enough time to go and get yourself a cup of coffee in the morning, but a home user wants a machine that doesn't keep you hanging around.



This functional diagram shows the basic block structure of the Gateway Amiga 2-1000. As you can see, the superchip does just about everything!

The new Workbench environment is certainly different from the OS3.1 desk tops we have been using so long. Once you look past the flashy 16.7 million colour windows and icons, a sense of familiarity creeps up on you. The shapes may be subtly altered, but the windows still have the same basic gadget layout, give or take the odd extra, and there's nothing much that would surprise someone used to the many patches and add-ons Workbench has endured in the past.

One very obvious innovation are Workbench Flavours. These are a set of pre-defined and user defined Workbench set-ups. As well as altering the obvious things such as font, pattern and gadget style choices, as you would expect, Amiga OS 5 is pleasingly flexible in terms of the desktop environment. It has always been one of the strong points of Workbench – at least if you were willing to add the odd few hacks – that it is highly configurable, and OS5 lives up to this tradition very nicely indeed. OS5 is a truly object oriented OS, and Amiga, Inc. have taken full use of this in the way the user interface can be thoroughly customised. Users of Directory Opus Magellen will be quickly at home with this new Workbench. Commands, functions and programs all become Workbench objects, addressable through a simple to configure , flexible interface. Thus any of these can be defined as a menu option, an appicon, or a button gadget where as you choose and where appropriate to the object type. This can be configured to a high degree through the Desktop preferences utility, allowing the user to set up a very Opus like environment or conversely a very limited environment appropriate to launching applications and little else.



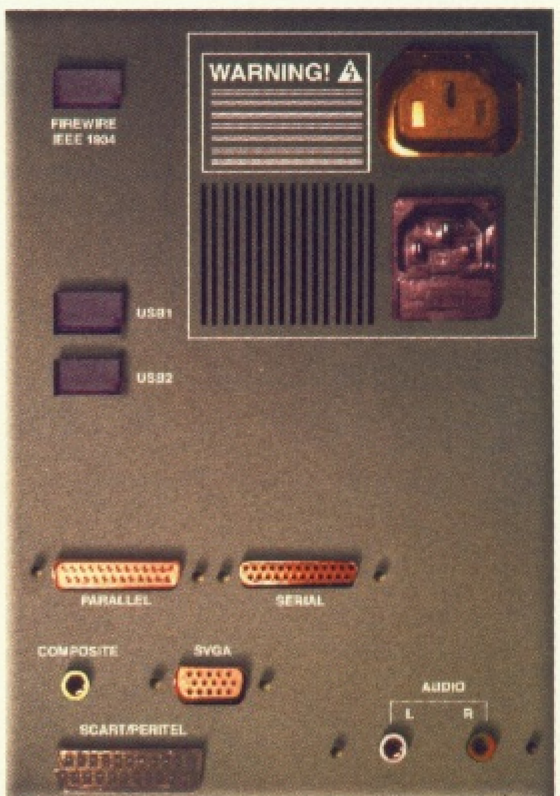
Remember this? This was the original concept for a possible OS 5 shown when the new Amiga was first announced 18 months ago. It is also available as a desktop "flavour" if you really want it!

The concept of Workbench flavours is not as frivolous as it may at first sound. They are much more than cosmetic things, and can be used to set up several configurations of your Workbench appropriate to different uses. You can choose which of your defined flavours is launched at boot-up, or even set the computer up to offer you a choice of several, even password protecting some. This means that you could set up your Amiga with a flavour appropriate to each family member, with each user's most commonly used software accessible as a desktop button in his or her personal layout, and as much or as little of the more technical "DOS" functionality easily at hand.

Arexx updated

The more serious user is always going to want some kind of command line access. If you were concerned that the emphasis on home computing would mean that Amiga, Inc. would be dropping the Amiga shell, you will be more than happy to know that it has in fact got a lot better. AREXX is gone, but the significantly extended shell has expanded to fill the void with a more UNIX like functionality and much improved string and variable handling. If that wasn't enough, Carl Sassenrath's REBOL scripting language is included as standard, making it as simple to write scripts utilising network messaging as it is filesystem handling.

Delving into the filesystem shows more of the areas where OS5 takes the ideas of older versions of the Amiga Operating system further. Much of the familiar layout is there, with shared libraries in a libs drawer, a devs draw (which comes with a much larger and more up to date set of hardware support, including TWAIN drivers and signifi-



A rear view shows a fair few ports on the back – and there are more front and side!

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cantly expanded datatypes), a C drawer for shell commands and so on. The most obvious difference is that unlike older versions but like Windows 98, this exists in a Workbench drawer rather than in the hard drive root. Localisation is carried through, although with rel. 1 of OS5, only English and German localisation is fully implemented.

Another obvious change is the font engine – the new OS directly supports anti-aliased postscript fonts, a blessing for cross-platform compatibility and output purposes. Multimedia is handled through a heavily extended equivalent of Multiview called Boing. Set as the default dataype of any file which is not otherwise defined, Boing uses the extended datatype system to determine what type of file something is and acts on it appropriately. Thus an executable is executed, a picture is displayed, an MPEG video or an MP3 is played, and a text file is output via the OS5 replacement for text handling, HTMLView – not a full browser, but ideal for documentation display. It is easy to add more datatypes and viewers into the Boing system, and we can expect to see more of them appearing all the time. A port of Adobe Acrobat and an accompanying .pdf datatype are due in a month or so.

I could go on about the features of OS5 for the rest of the review, but if you need more I'll redirect you instead to page 112, where you will find part one of our new tutorial series on the new Workbench. For more immediate information, you can check out our sizeable overview of the new OS in the October 1999 issue.

Hardware heaven

On the hardware front, the Gateway A2-1000 follows the basic configuration laid out by Amiga, Inc. in most respects, but there are areas in which they have gone their own way. The case is clearly designed as a simple desktop-beside-TV unit, with little scope for expandability. There are just three drive bays, entirely populated – a 2.1 GB hard drive, an LS120 floppy drive, and of course a double sided DVD-ROM drive. The hard drive may sound small, but it should still go further than it would on a PC. The LS120 is annoyingly slow compared to some of the other "superfloppy" contenders, but takes standard PC formatted 1.44Mb floppy disks. Around the back you find a bit of a jumble of connectors; there is composite video, SCART and SVGA output for video, Stereo audio in and out, ECP parallel, serial, USB, IEEE1394 Firewire, and 3-pin IEC mains inlet and through socket. The front has a keyboard interface and joystick ports.

Firewire supplants SCSI for a lot of functions here, with external hard drives, DVD-RW drives, and networking all significant uses. This is a 200MB/s implementation, the most common type, although the top of the range A2-5000 due in the summer is meant to have the 400MB/s. Still, 25 megabytes of data per second is pretty fast, so I don't think there will be too many complaints. One of the applications that comes as standard is a digital video encoder, which supports Firewire as an isochronous data bus for digital video-camcorders such as those from Sony and JVC with a digital video out can be plugged straight into the back of the A2-1000 and the video footage saved in uncompressed or compressed form. Perfect for e-mailing videos of your holiday to your mates. Neither Firewire or USB is necessary for telecommunications, though – the superchip supports direct telephony through a standard telephone socket for 56k modem or ADSL.

A final rear slot contains a blanking plate; another departure from the expected norm is an implementation of the expansion port from the so-called "Torre Box", a reference design from Amiga, Inc. for a higher end Superchip Amiga more suited to the computer enthusiast. This port has full a UMA implementation, and should provide for a range of expansion cards in the future. ACT (Apollo) are said to have a RAM board well under way, while phase 5 are trying to figure out some way to add PPC.

On the front is a simple on/off button, a

GETTING SERIOUS

OK, games are looking well of, but does all this spell gloom for the old Amiga head, the more serious, creative user? Are Amiga, Inc, making the fatal error that killed Commodore, putting all their eggs in one basket and courting disaster the next time games lose trendiness? Fortunately not. The new Amiga has all the features you would want out of a low cost, high value creative studio, with excellent budget digital audio, sampling, midi, video, and image processing facilities. Digita have Wordworth 8 ready, expect a review next month, while Octamed professional 3 is expected to be quite something special, with support for Firewire instrumental control for those who think Midi is out of date. Newtek are looking closely at what they can do with the new hardware – there's not much point with a video toaster if you have one of these – but is likely to wait for the first Machines based on the MMPU-128c variant processor, which has much higher quality RamDACs and broadcast quality components. On the graphics front, Paul Nolan's award winning Photogenics Ng is coming, with much improvement promised as a result of the DSP architecture in the superchip which can work wonders with the kind of image processing functions it uses. Internet access comes as standard making this the cheapest way of getting high quality Internet access, but there is still one serious lack, and that is a really decent combined home office. We'll just have to wait and find out if the rumours about Corel Works are true.

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CUCD

A few people have asked us if we will be putting DVD-ROMs on the cover from now on – the short answer is no. The new DVD equipped Amigas will read standard CUCDs, while CD-ROM drives can't make head nor tail of a DVD-ROM. So far, only a tiny minority of our readers currently have DVD-ROM drives. With as much on one DVD as there is on around 7 normal CUCDs, there is also a fairly major question as to where on earth we would find enough material, and how on earth we could pay the extra manpower costs in assembling such a monstrosity every month! However – give it time, it's bound to happen some day soon! In the meantime check the A2 drawer on this months's and all future CDs. The current one contains A2UAE, the emulator which currently allows you to run classic Amiga software (why on earth did it not come as standard?) at around 68040/33 speed, and a diy parallel connector kit and networking program good for transferring files across from your old Amiga.

recessed reset switch, and a small LCD screen. The screen is an addressable OS object, so it is easy to get it to display all sorts of data, but mostly it just shows disk and hard drive access. It's fun to get it to show your CPU load for a while, but I feel that it is mainly there because it could be; the superchip has a built in LCD driver and Gateway obviously thought they might as well use it.

Multimedia, multitasking

On a multimedia front, the A2-1000 impresses from the off. It will happily open up half a dozen windows showing mpeg-1 videos simultaneously, while playing an AC-3 surround sound audio. The clever design of the superchip and the way the OS deals with its communication with the hardware on a [illegible] basis makes for a far cleaner multithreaded, multitasking environment than OS3.1 – in this case the contents of each window is actually calculated by a separate processing unit on the chip wherever possible, so that there is almost no slowdown in one function as another is done. Rest easy guys, when it comes to multitasking the Amiga is still king.

The graphics capability is impressive. Massively tuneable video modes make it possible to generate a wide variety of output modes, allowing video out in various standards, as well as SVGA modes for very high resolutions, and, being nicely forward looking, HDTV modes. You can play around with resolution, flip it into 16:9 wide screen, or even come up with a mode for your aging Commodore 1084, but you're not likely to see the maximum the machine can do: if you can, tell me what the hell kind of monitor you have. While it is possible to get a faster screen update at any given resolution with some of the really powerful modern graphics cards, the difference is not huge, and the superchip is certainly more than sufficient. Image quality is excellent, with the fast 1.2 GB/s bus speed allowing large textures to be used. All the effects you would expect in a top of the range PC graphics card, such as anisotropic filtering, z buffering, bump mapping and so on are all present. Sound is well up to scratch with AC3 surround sound; this is a machine that is begging to be jacked into a 32" HDTV widescreen telly and a good HiFi and allowed to strut its funky thang. As the first in a new breed of Amigas, the A2-1000 certainly does what Amiga, Inc. were hoping – it makes you want one. It is not quite as revolutionary as the original Amiga 1000 was because it isn't really doing anything you haven't seen before, it is just that it does what it does very well and very cheaply. For 350 quid you get all the computer you need for a home machine. It plays videos, it plays games, you can word process on it. Like the original Amiga, it will no doubt attract the video industry, the powerful video han dling and the firewire connector are just what is wanted, although I suspect that this time around a wider choice of set-ups will consign this model to home computer usage while more heavily kitted out varients will be picked up by the professional user.

IN AND OUT

OUT	IN
AGA	HDTV
Playfields	Accelerated 3D
AMOS	JAVA
8 bit Paula	AC-3 surround sound
CD-ROM	DVD
2Mb ChipRAM	64MB UMA RAM
880k floppies	1.44MB & 120MB floppies
SCSI & IDE	Firewire
Amiga mice	USB
4 bit MWB colours	32bit workbench 5
Anim5	MPEG-2
Guru errors	Memory protection
MUI	Advanced OS5 OO gui
Microsoft	Amiga inc!

New platform

Like all new hardware platforms – and remember that despite the name this generational jump does take the Amiga into the realms of new platforms – the software companies are treading nervously. At this price point and market position it will be gaming that will initially drive the machine, and games companies are feeling a little fragile at the moment, and none too willing to take risks. The Amiga is however very tempting for them. While the PC games market is still having trouble coming to terms with the fact that 70% of PCs still don't have 3D graphics cards, it is proving more difficult for them to program the kind of games people are coming to expect. With all these multimedia functions as standard, no hardware compatibility issues to contend with, and an API with a high degree of compatibility with Direct X, the windows API, the Amiga is a tempting product to develop for. Amiga, Inc. have been quite clever about this, donating a couple of thousand development systems to games companies with a strong Amiga background, both those who have remained in the industry and those who have moved on but shown an interest in returning to the fold. As a result, there are a couple of dozen games already scheduled for release in the next few months, and plenty more software houses lining up if the initial sales are promising.

It is true that as a bare processor, the Superchip is matched by mid range processors, but so much work is done so efficiently by the multimedia units that it seems faster than it is. The fundamentally different approach to computing makes it a bit tricky to give any kind of direct speed comparison. Operations which make the most of these multiple processing units go blisteringly fast, while functions that avoid them completely, such as running a C compiler, are rather average. As multimedia functions are likely to be the most used ones, it's a good trade off for the money. I think most people would be willing to sacrifice average compiling times for instant simultaneous decoding of realaudio, MPEG-2 video and a bunch of JPEGs from a website. For any family who has ever thought that the price just was not right for computing, the Amiga is quite simply a dream come true. TV or monitor connectivity, a built in modem with very transparent telecommunications software built into the OS, easy configurability and massive doses of user friendliness, what more could anyone want? For the hardened Amiga user, wait for one of the more expandible models due soon, but if the A500 or A1200 was your first love, it's time to turn it in for a younger model. ■

Andrew Korn

AMIGA A2-1000

Developer: Gateway

Ease of use 92%
Simple, straightforward, user friendly, lots of drag & drop support – excellent.

Performance 95%
There are more powerful machines out there...

Value for money 98%
...But only at 5-10 times the price.

OVERALL
The ultimate home computer – but power users may want to wait for later models.

95%

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EXPLORER 2260
SUPERCHIP EDITION PREVIEW

■ TBA ■ Developer: The World Foundry Publisher ■ Publisher: Vulcan Software

Explorer 2260 looked great on PPC, but this new Superchip version, it might get the exposure it deserves.



E2260 space battle, superchip style. Damn those explosions are good!

If you aren't familiar with Explorer 2260, you've probably picked up this magazine to check out the new Amiga and haven't been keeping tabs on the Amiga scene over the past few years. A hugely ambitious game, E2260 was targeted at the higher end of "Classic Amiga" users, working only on PowerPC equipped Amiga systems.

Your Planet needs you

In Explorer 2260, the so called Dynamic Universe Model keeps the cosmos ticking along. Diplomatic relations change around you altering the background against which you play the game, so that if you do not keep track of the information coming through the datanets or whispered to you over a drink at the spaceport bar, you risk returning to a favourite trading spot to find it has been conquered by deranged aliens.

This works even better in a multi – player environment, the player connecting to an E2260 server and becoming part of a shared universe. This allows you to play a character in a universe which is not only controlled by the Dynamic Universe Model, but also by the intervention of human moderators and the actions of the other players.

This superchip edition of E2260 benefits from the new technology in several ways. The first is that it is running on a platform with Internet access as standard. Plans are already afoot for expanding the multi user capability of the servers to cope with much larger numbers of players, and the Amiga Inc website (which is set up as a kind of gateway to the internet for users of the new Amiga) will be hosting the first of the extended server systems. It has been open for beta testing for a while now, and it is looking impressive indeed. It can get pretty challenging when news filters out of some alien artefact discovered half way across the universe and a dozen players rush off in a race to be the first to claim it! During one beta session, a small mercenary war broke out when one player stumbled across a valuable deep space mining site belonging to a second player and stole it. The second player started hiring other players to help him attack the thief, who responded by hiring some guards of his own. Before long almost every player in the game was embroiled in a space battle the likes of which you normally only see in the more expensive episodes or Star Trek of Babylon 5.

To boldly mip-map...

The other big advantage of the superchip version is the way it looks and sounds. Sound wise, we have the introduction of the high end AC-3 audio standard. This version of Explorer has a slightly modified soundset using some of the surround features – hearing spaceship explosions bursting around you in surround stereo adds quite a lot, even if it ignores some basic physics about sound propagation and vacuums. Graphically, there is more of a difference. The PPC version with all the graphics functions turned on looked damn good but needed a really powerful PPC Amiga to play. The difference with this version is the implementation of hardware 3D acceleration. Using the built in 3D capabilities of the Superchip allows large textures to be applied, objects to be filtered and anti-aliased, significantly improved dynamic lighting effects, and all in all graphics which as the screenshot demonstrates falls firmly in the "Kick-arse" category. When E2260 came out it suffered in comparison to the quite similar PC title Excession because of the glitzy graphics the later enjoys with 3D card support. Running on a superchip, E2260 doesn't give Excession much of a chance. When the OpenGL core gets ported back across to the PPC version for owners of Permedia 2 cards or Voodoo cards, current owners should get some of these effects, but frankly the superchip simply embarrasses these older graphics processors. High end machines such as the top of the line Pre/Box will be able to beat this level of performance when they get support for some of the new graphics cards due soon such as the S3 Devil or the Voodoo 3, but for a £350 home computer the superchip Amiga is a damn good partner for Explorer. ■

Andrew Korn

Disclaimer: This is a fictional preview of a future product that may not appear in the form described here.

Thanks go to The World Foundry's Rob Asumendi for the screenshot mock-up, but please note that this does not necessarily represent how the final game will appear.

EYELINE

Bringing you the latest Amiga News from Eyetech

Latest News in Brief

Award-winning CDPlus-SE down in price!

The Eyetech *CDPlus-SE*, which recently came out top in a comparative Amiga Format review, has been reduced in price by up to 17.5% following recent reductions in the price of CDROM mechanisms. The 20-speed *CDPlus-SE* is now just **£85.95** complete with *EZCD-SE* interface, 40 & 44 way cables, PSU, and software, with the 32- speed version coming in at just **£98.95!**

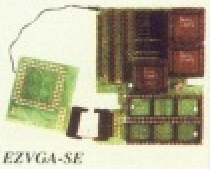
Both units were awarded CU Amiga 'Superstar' and Amiga Format 'Gold' awards at their original prices of £99.95 and £119.95 respectively.



CDPlus-SE

Eyetech stocks the Elbox IDE-Flyer high speed A1200 IDE interface

The Elbox *IDE-Flyer* - designed and made by the same company who gave us the ProGrab framegrabber - is now available ex-stock from Eyetech. This newly designed high performance 4-way buffered interface interface - which was awarded 98% in the recent Amiga Format review - can increase the performance of your A1200's hard drive system by 600% or more (AF test results).



EZVGA-SE

The Elbox IDE-flyer is available for just £68.95 from Eyetech, or for just £49 if bought with a CDPlus-SE (see 'Discount Offers' below).

EZPC-Tower specification boosted

As detailed in last months Eyeline, the specification of the *EZPC-Tower* system has been significantly improved to include a 30-bit A4 colour scanner, 64MB of memory and 3.2GB of disk space as standard. It is supplied ready to fit your existing A1200, or Eyetech can offer a collect-fit-configure-test-deliver service for a fixed price - please ring for details. An analysis shows that going the *EZPC* expansion route is over 40% cheaper than obtaining the equivalent functionality by the traditional Zorro route. Please ring for further details.

EZVGA range of Scandoublers/Flickerfixers increased - *and* prices reduced



EZVGA -Plus



EZVGA-SE



EZVGA-INT

EZVGA internal and external scandoublers are now available from Eyetech for just £54.95 - or from £45 if bought with a monitor. Full flickerfixers - which allow twice the usable vertical resolution - are priced from just £89.95, or £85 if bought with a monitor.

Limited period discount offer vouchers cheer up an otherwise lacklustre summer!

To help bring some well-needed sunshine to Amiga owners Eyetech has put together three very special money-saving offers valid until 15 September 1998. Using the coupon on the last page of Eyetech's advertisement in this issue you can:

- Upgrade the interface of your *CDPlus-SE* to the high-speed Elbox *IDE-Flyer* (Awarded 98% in Amiga Format) for just **£49**
- Get 25% off memory bought in conjunction with an Apollo or phase 5 accelerator ***(32MB for under £30!)***
- Get a FREE PC keyboard - worth ***£19.95*** - if you buy a Full or DIY *EZ-Tower* and *EZ-Key* keyboard adapter.

To qualify you MUST clip the appropriate coupon and send it with your order.

EZ-Writer brings affordable CD production to every A1200

Internal CDWriters and Software for A1200 Tower Systems and A4000's from under £250 External units for under £300

Back up your data in multiple sessions ... Make your own audio disks... Archive your digitized photos to CDROM ... all for less than 0.16 pence per megabyte!

I thought CD Writers were expensive specialist items?

'Burning' a gold CD was considered a specialist and expensive process on any platform just a few months ago. However, as the demand for cost effective CD writers (on the PC) has risen, the price of the writer mechanisms (which also function as conventional CDROMs) has fallen dramatically. This, coupled with the release of fully functional, yet cost-effective CD writing software for the Amiga - such as MakeCD - has made the provision of low-cost CD writer units for the Amiga a real possibility.

Eyetech has been working closely with the authors of MakeCD over the last few months to turn this possibility into a fully functional, low-cost CD writing system for the Amiga - the Eyetech *EZWriter*.



EZWriter Gold

SCSI or IDE?

Although the first CD writers to be made were SCSI devices, this was largely for historical rather than performance reasons. CD writers were regarded as tools for specialists, and those specialists tended to have SCSI-equipped computers, whether on MAC, PC or Amiga platforms. But SCSI cards are unnecessarily expensive, particularly for CD writers which have quite low data rate demands - as low as 150 KB/s. These data rates can easily be handled by the IDE port (which typically transfers around 1.5 MB/s or greater) of a relatively basic A1200 with, say, just an 030/33+8MB accelerator.

With higher performance processors the Amiga can easily multitask - e.g. maintain an interactive Internet connection - whilst writing an ISO image to the IDE-connected *EZWriter*. In one of the most severe CD writing test we could think of, we have wrote a 120MB session to an *EZWriter* connected to the Amiga side of a Siamese Ethernet system using 'on the fly' data transfer from drives on the PC side. This test was completely successful - and at the first attempt!

CD Writer or CD-rewritable?

Whilst superficially the idea of a rewritable CD drive is attractive, deeper consideration of the use to which a rewriter will be put - and of the relative economics - usually shows this not to be the best option. The performance characteristics of the CD means that it can never really be considered a substitute for a hard drive - even in its rewritable form. It is best used as a medium for archiving data (ie for back ups) or for distributing programs or multimedia files to other computer users. In both these applications the 'gold' disk - costing less than £1 for 650MB of storage - is by far the most cost effective. In addition, gold disks can be read by virtually every CD-ROM in use today, whereas CD-rewritable disks can be read by very few drives, other than CD-rewritable drives themselves. CD gold disks can of course be written to many times in different 'sessions' up to the limit of their 650MB capacity.

In summary, you can buy an internal *EZWriter* software and 20 gold disks (13GB storage) for under £270. The equivalent cost for a CD-rewritable drive, software and 20 re-writable disks would be around £600.

Which model is best for me?

If you have an Amiga Tower or MiniTower/Desktop internal IDE/ATAPI CDROM ***or*** a *CDPlus* (***not*** -SE) external unit, then all you need is the internal *EZWriter* upgrade kit. Simply substitute the *EZWriter* for your existing CDROM drive, install the software and start burning!

If you have a stand alone CDROM - other than a MT/DT or *CDPlus* - which you are considering upgrading, please note that you will need to ensure that its power supply is rated at least 40 watts due to the higher power requirements of a CD writer unit. Most external CDROM units are shipped with PSUs rated at 17-20 watts.

The price of the internal *EZWriter* is just ***£249.95.***

If you do not have a CD-ROM to upgrade, then your options are:

EZWriter-Gold	Low profile, external unit with PSU	*£299.95*
EZWriter-MT/DT	Mini-Tower or Desktop case, which can also power your Amiga and house additional drives	*£299.95*
EZWriter-FT Plus	Full *EZ-Tower-Plus* and *EZ-Writer* bundle (with keyboard adapter, Win95 keyboard)	*£379.90*

In all cases you will also need a buffered interface, cables and ATAPI driver software. If you do not have these already we can supply cables, ATAPI software and *EZCD-SE* buffered interface for the special price of £20 - or £30 with *EZCD-MK 2* interface plus *EZ-IDE* software - at the time of purchase of your *EZWriter* system.



Eyetech Internal EZWriter

'Try-before-buy' Siamese RTG System now available from Eyetech for just £24.95

If you are thinking of expanding your Amiga the *EZPC* way - or are just interested in hooking up your A1200 to an existing PC, but are not sure what the benefits are likely to be in your situation, then Eyetech has the answer to your dilemma. If you buy the Siamese RTG2.1 software from Eyetech (for just £24.95) you can try out its full functionality using a serial link. If you decide it is what you want - but just too slow - then you can trade it in against any Siamese RTG2.5 based product from Eyetech within 30 days of purchase and get the full purchase price (less carriage) credited against your new purchase.



Hard-to-find specialist Amiga cables now available ex-stock from Eyetech

As well as supplying complete Amiga expansion products and D-I-Y kits we have always tried to help the Amiga owner who needs special parts and cables to customise an Amiga installation. Our Amiga Parts and Price Index - on page 3 of this advertisement - has a comprehensive range of such adapters and cables. Amongst many other items you will find:

- PowerUP SCSI-2 to Centronics-50M (CDROM) cables
- Null modem cables for Siamese 2.1 installations
- BNC coaxial and 'crossed' UTP ethernet cables for Siamese
- Keyboard, monitor, serial, SCART cables & extensions
- 40-way HD/CDROM cables and external mounting sockets
- 3-connector, 44-way cables to connect 2x2.5" A1200 HD's
- 22-way clock port cables, PSU outlet-to-4x13Amp outlets, etc



Fuji DS-7 Digital Camera with AC adapter/recharger

- 640x480x24 bit pixel resolution - ideal for Web graphics - with focus from 9cm to infinity
- Stores up to 30/60 high/low res pictures in Jpeg format on exchangeable 2MB SmartMedia card
- Comes with Amiga CamControl Software (see right) as well as PC & Mac software & cables
- 1.8" colour LCD display, bidirectional serial interface, B&W PAL TV output (NTSC colour), time & date stamping
- Self-timer, auto write balance, aperture-priority auto exposure with manual EV adjustment
- Equivalent to 35mm lens/ISO 100 sensitivity in 35mm camera terms

Last few with AC adapter & CamControl software at just £299.95

Award-winning UMAX SCSI flatbed scanner with Amiga PhotoScope software - just £179.95 whilst stocks last!

- 600x300 dpi optical resolution, single-pass 24-bit A4 flatbed scanner
- Comes with Photoscope (Amiga) and Mac software. Compatible with all modern SCSI interfaces - including PPC, Blizzard & Classic Squirrel (but not *Surf-Squirrel*)
- PCW 'Best Scanner of 1998' Award - July 1998; PCxxx 'Best Scanner' August 1998
- Parallel port version for EZPC-Tower also available at lower cost - Please ring for details

Amiga UMAX Scanner & Photoscope Bundle - just £179.95



The Eyetech EZ-Tower System - from just £79.95

Thinking of towering up your A1200? Then you should certainly be considering the unique Eyetech EZ Tower System:

- ✓ The easiest way to re-house your A1200 by far
- ✓ Expand your system with EZPC or Zorro slots
- ✓ 250 W PSU with PC and Amiga power connectors
- ✓ Available in 4 models to suit different skills and budgets
- ✓ The only tower allowing both PC & A1200 in one case

"This is definitely one of the easiest solutions to building your own Tower" - AF
"The Eyetech Tower offers clever solutions with a Velcro easyfit mentality" - CU Amiga

	Backplate Kit	DIY* EZ-Tower	Full EZ-Tower	EZ-Tower Plus
DFO: face plate, cable	Yes	Yes	Yes	Yes
Custom backpanel w/SCSI, audio KOs	Yes	Yes	Yes	Yes
A1200 power & LED adapters	Yes	Yes	Yes	Yes
CE-approved metal PC case	n/a	Yes	Yes	Yes
No of bays/PSU capacity	n/a	10/250W	10/250W	10/250W
Accessible PCMCIA slot	Yes	Yes	Yes	Yes
DIY assembly instructions	Yes	Yes	n/a	n/a
Installation instructions	Yes	Yes	Yes	Yes
PC board/Siamese compatibility	Yes	Yes	Yes	Yes
Assembled & A1200-ready	No	No	Yes	Yes
EZ-Key adapter & Win95 k/b	Option	Option	Option	Yes
Eyetech installation option	No	No	Yes	Yes
Cost with options as specified	£39.95	£79.95	£99.95	£148.95

*With the DIY EZ-Tower you have to remove the PC tower background and some internal shelving and fix the new backpanel in place



The A1200 EZ-Tower

EZKey & EZKey-SE

- ✓ Autodetects and remaps Amiga & PC k/boards *(both models)*
- ✓ Choice of two keyboard-selectable PC key mappings *(not-SE)*

"The nicest keyboard adapter we've come across" - CU Amiga

EZKey/EZKey-SE alone - just	£39.95/£28.95
EZKey/EZKey-SE and Win95 k/b	£49.95/£38.95
EZKey/EZKey-SE and A4000 k/b	£69.95/£58.95

Join the Digital Imaging Revolution with Eyetech

Amiga Digital Imaging Software from Andreas Gunther

"An excellent piece of software" Gold Award - Amiga Format

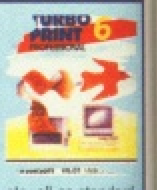
ScanQuix3 & PhotoScope Software - *just £59.95*

- ✓ 24 bit scanning with full range of editing options
- ✓ 'Scan-to-disk' option in Jpeg or IFF
- ✓ Stand-alone use or integrates with your Art package (AdPro, ArtEffect, PPaint, Photogenics, ImageFX, XLPaint, Pagestream 3, DPaint5) via AREXX
- ✓ SQ3 - for Epson, HP SCSI & Epson parallel scanners, Photoscope for UMAX 610S/1210S

CamControl Amiga Digital Camera Software - *just £39.95*

- ✓ Serial connection versions available for most popular models of Kodak, Minolta, Olympus, Casio & Fuji digital cameras
- ✓ Picture transfer, camera control & sideshow options (camera dependant)
- ✓ Stand-alone use or integrates with your Art package (AdPro, ArtEffect, PPaint, Photogenics, ImageFX, XL Paint, Pagestream 3, DPaint 5) via AREXX
- ✓ Selectable serial device for use with high-speed interfaces like the PortJnr

TurboPrint 6 - the essential partner for your digital imaging work - £38.95



- ✓ The most comprehensive, fastest replacement printing system for all WB2x+ Amigas
- ✓ Supports the latest Epson, Canon, HP printers - including the award-winning Epson Stylus Photo
- ✓ Integrates seamlessly with ScanQuix/Photoscope scanning software and CamControl digicam s/w
- ✓ Poster printing, image tiling, colour correction, print spooling, photo optimisation etc, all as standard
- ✓ Selectable parallel device for use with high-speed interfaces such as the PortPlus (see below)

PortPlus - 2 x 460bd serial + 1 x 800KB/s parallel & PortJnr - 1 x 460bd serial ports (for attachment to the A1200's unused 'clock' port)

PortPlus - £79.95 - or just £70 if bought with Turboprint 6 software
PortJnr - £39.95 - or just £30 if bought with CamControl software



AMIGA 1200 Magic Packs

- Direct to Eyetech from Amiga International Inc.



- ✓ Full UK specification with Kickstart 3.1/Workbench 3.1 disks and manuals. UK PSU, mousemat, TV lead and 2mb graphics memory (in addition to any memory expansion included in the packs below).
- ✓ Fantastic software bundle including Wordworth 4SE, Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz.
- ✓ Hard drive versions come with Scala MM300 pre-installed.
- ✓ Other options available, eg EZ-Tower Magic Pack bundles from *£348.95* - ring for details.
- ✓ Time-of-purchase upgrade packages available at very special prices - see asterisked* items in the 'Pack' boxes below.

Eyetech *Starter Pack & Starter Pack-Plus*

Diskette based system as above — Just £184.95
170MB HD-based system as above — Just £248.95
*Add an '030/33EC accelerator with 8MB for just £59.95**

Eyetech *Productivity Pack 3*

170MB HD,030/33MHz/MMU/FPU/8MB — Just £328.95
*Upgrade to an '040/25MHz/MMU/FPU w/16MB AND a 100W PSU for just £99.95**
*... and/or upgrade to an EZTower-Plus with EZKey and PC k/d for just £120.00**

Eyetech *MiniTower Pack 3*

1.7GB HD, '040/25MHz/MMU/FPU/16MB, 20-speed CDROM, EZ-CD-Mk4 4-device buffered i/f & cables, EZIDE s/w, MiniTower case with 230W PSU — Just £598.95
*Upgrade to an '040/25MHz/MMU/FPU with 32MB for just £69.95**

Eyetech *Professional Pack 3*

4.3GB HD, '040/33MHz/MMU/FPU/32MB, 24-speed CDROM, EZCD-Mk4 4-device buffered i/f & cables, EZIDE s/w, EZTower-Plus case with 250W PSU — Just £798.95
*Upgrade to a 160MHz PPC with '040/25MHz/MMU/FPU w/64MB for Just £129.95**

New! *Amiga SVGA Monitors*

- for use with Amiga Zorro & the new PPC gfx cards, scandoublers & the EZPC-Tower system

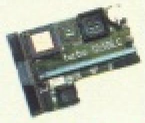


- ✓ All monitors come with a 3-year warranty and at least 1year on-site maintenance - call for details.
- ✓ Special pricing on scandoublers/flickerfixers bought with monitors from just *£45 extra*
- ✓ Monitor specifications are quoted as the highest vertical refresh rate at the maximum resolution. Higher refresh rates (>=72Hz) at lower resolutions are available and give a more visually relaxing display.
- ✓ Scandoubler/flickerfixers have resolutions governed by the Amigas AA/AGA chipset and are restricted to a maximum vertical refresh of 73Hz and a maximum usable resolution of 724Hx566V. The PPC BVision supports 1600x1280@72Hz.

14" SVGA 0.28DP, 1024Hx768V @ 60Hz	£129.95
15" SVGA 0.28DP, 1024Hx768V @ 60Hz	£169.95
17" SVGA 0.28DP, 1280Hx1024V @ 60Hz	£299.95
17" SVGA 0.26DP, 1600Hx1280V @ 75Hz	£399.95

Apollo Accelerators

- from just £44.95



Turbo 1230LC '030EC/25MHz (5 MIPS) - max 8MB - just £44.95

Options: 25/33 MHz FPU	+ £10.00
MMU (non-EC) version	+ £10.00
33MHz version (7 MIPS)	+ £5.00
A600 '030/33MHz/MMU/FPU(7 MIPS) to 32MB	£69.95
A600 '030/33MHz/MMU/FPU(7 MIPS) w/32MB	£99.95
A1200 '040/25MHz/MMU/FPU* (19 MIPS)	£127.95
A1200 '040/33MHz/MMU/FPU* (25 MIPS)	£157.95
A1200 '040/40MHz/MMU/FPU* (30 MIPS)	£187.95
A1200 '050/50MHz/MMU/FPU* (39 MIPS)	£267.95
A1200 '060/66MHz/MMU/FPU* (51 MIPS)	£317.95

*To 32MB. Optional 2nd simm socket (tower only) offers 64MB total

4MB - £9.95   8MB - £19.95   16MB - £29.95   32MB - £39.95

Tip: Buy your memory with the accelerator to ensure full compatibility

The Eyetech EZPC-Tower

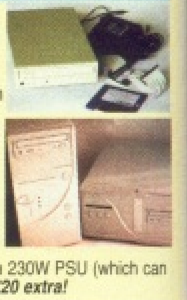
The most economical way to seriously expand your Amiga. All this for just £999.95 - and you get a free PC thrown in!

- ✓ EZ-Tower Plus with keyboard, EZKey adapter & 250W PSU
- ✓ 30-bit A4 single pass flatbed scanner. Full colour still & video capture card.
- ✓ 16-bit, 32 voice wavetable sound card with midi interface & recording s/w
- ✓ 2 additional high speed serial and one additional bidirectional parallel ports
- ✓ Amiga accessible high density floppy drive, 32-speed CDROM & 3.2GB HD
- ✓ High resolution 24-bit Amiga graphics display via the Siamese RTG2.5 ethernet system. Full screen, full motion MPEG playback (with sound).
- ✓ Full PC with 64MB memory etc etc for your less serious computing activities.

The *Top-Rated* Eyetech CD-Plus Range for the A1200

"Eyetech have come up with a real winner with this new CDROM drive" - Ben Vost, Amiga Format

20-speed CDPlus-SE now just £85.95 - whilst stocks last! 32-speed just £98.95!



- ✓ Whisper quiet 20- or 32- speed CDROM mechanism
- ✓ *EZCD-SE* 4-device buffered interface, 3-connector 40-way and 2-connector 44-way cables included.
- ✓ CDPlus driver software specially written for Eyetech by the author of IDE-*fix*
- ✓ Optional Amiga and CDDA audio mixer with Gold phono audio jacks.
- ✓ 20-watt CE-approved PSU complete with 13A plug.
- ✓ Optional upgrade to MiniTower or Desktop case with 230W PSU (which can also hold extra drives and power your Amiga) ***just £20 extra!***

A1200 HARD DRIVES - LS120, ZIPs

Thinking of buying a BIG drive? Don't waste your money on ***ANY DRIVE OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actually). They appear to work but overwrite the RDB after 4.3GB into the drive.

- ✓ All drives come ready to use with WB3.0 preinstalled & WB2.x install script
- ✓ All drives over 200 MB come with over 45 top quality utilities (not shovelware) and MMe multimedia authoring software preinstalled, configured and ready-to-run

TowerDrives (3.5" drives, 25mm high):
1.7GB - £99.95   2.1GB - £109.95   3.2GB - £129.95   4.3GB - £149.95

LS120 & Zip Drives (ATAPI i/f - EZIDE needed):

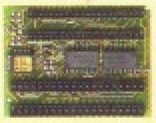
LS120 (HD Floppy/120MB Cart)	- £79.95	3 x 120MB carts	- £34.95
Zip Drive (Mac emul'n compat)	- £79.95	3 x 100 MB carts	- £39.95

2.5" Instant Drives for the A600/A1200 SX32

20MB	An entry-level drive for the SX32/A600	£29.95
170MB	An entry-level drive for the SX32Pro/A1200	£69.95
720MB	A drive for serious A1200/SX32 Pro users	£99.95
1.4GB	A high performance drive for power users	£139.95
1.8GB	Top-class drive for the A1200/SX32Pro	£169.95



The new EZCD-SE economy 4-device buffered interface from Eyetech - Just £24.95



- ✓ Suitable for most medium performance A1200 systems
- ✓ Comes with Eyetech ATAPI s/w by the author of IDE/Fix
- ✓ Trade up to EZCD-Mk4 i/f at full buying price (less carriage) within 30 days (if required).

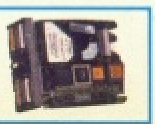
EZCD-SE and CDROM software	- *just* £24.95
EZCD-SE, CDROM s/w with 3x40 way & 13 cm 44-way cables	£34.95
EZCD-Mk4 with full EZ-IDE s/w and 40-&44-way cables	£44.95

The new EZCD-Mk4 High Performance 4-device buffered interface with AIPU from Eyetech - Just £39.95

- ✓ High performance active interrupt control circuitry essential for highly expanded and/or accelerated A1200s.
- ✓ Comes with Eyetech ATAPI/CDROM software by the author of IDEfix

EZCD-Mk4 and CDROM software	- *just* £38.95
EZCD-Mk4, CDROM s/w w/ 3x40-way & 13cm 44-way cables	£48.95
EZCD-Mk4 with full EZ-IDE s/w and 40- & 44-way cables	£58.95

Expand your CD32 - send for details!



SX32 Mk2	£149.95
SX32 Pro50	£269.95
SX32 Pro40EC	£199.95

CDPlus EZWriter Internal System 2/8x + MakeCD s/w (Twr/A4K)	£249.95
CDPlus-Gold EZWriter System 2/8x + MakeCD s/w (external)	£299.95
CDPlus-MT/DT EZWriter System 2/8x + MakeCD s/w	£299.95
With EZCD-SE i/f, 44-way & 40-way cables & CDROM s/w	*add £20*
With EZCD-SE i/f, 44-way & 40-way cables & EZ-IDE s/w	*add £30*

EZ-IDE

Amiga IDE, ATAPI, CDROM and removable media enhancement s/w

Only available from Eyetech. Probably the only hard drive/ CDROM/LS120/ZIP/SyQuest software you'll ever need.

- ✓ Supports LS120, Zip, Jaz, SyQuest and other IDE/ATAPI removable cartridge drives AUTOMATICALLY. Includes Eyetech's IDE ZipPrepTools.
- ✓ Optimises IDE hard drive performance automatically. Eliminates 'Max-Transfer' nightmares.
- ✓ Extensive CDROM support including multidisk changers, direct digital audio transfer, CD32 emulation, high performance filesystem support for Amiga, Mac and PC CDs.
- ✓ Ready-to-use as shipped. No sending away to foreign parts for registration codes as with the 'commercial' versions of IDE-fix97 and Atapi P'n'P.

EZ-IDE Software	*- £34.95*
If bought with any EZCD i/f Zip or LS120 drive	*- £16.95*
*Upgrade from Eyetech CDPlus/IDEfix s/w**	*- £19.95*

** Trade-in & proof of purchase required*

phase5 PowerUp PPC + '040/'060 Accelerators

Without SCSI (not upgradable)

A1200 160 MHz 603e PPC with '040/25/MMU.FPU	Only £238.95
A1200 160 MHz 603e PPC with '060/50/MMU/FPU	Only £448.95
A1200 240 MHz 603e PPC with '040/25/MMU/FPU	Only £348.95
A1200 240 MHz 603e PPC with '060/50/MMU/FPU	Only £568.95

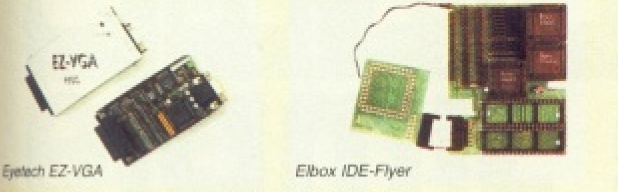
With factory fitted on-board Fast SCSI II Interface - add just £50 to the above prices

Blizzard Vision Permedia 2 PPC graphics card now available! Unbelievable quality and speed - 1600x1280@72HZ! No Zorro slots needed! 4mb card - £168.95 or just £148.95 with a PPC

Eyetech Amiga Parts & Price Index September 1998 - 44 (0)1642-713-185 - 07000 4 AMIGA

Interfaces and Adapters: EZ-Key & DIY Tower Components

ADPT-EZKY	Amiga/PC k/b -> A1200 kbd ribbon cable	36.95
ADPT-EZKY-A4K	A1200 EZKey/6p->5p adptr/A4000 kbd bundle	69.95
ADPT-EZKY-W95	Amiga/PC k/b->A1200 rib cab+Win95 kbd	49.95
ADPT-EZK2	Mk 2 Amiga/PC k/b -> A1200 kbd direct connect	28.95
ADPT-EZK2-A4K	A1200 EZKey MK2/6p -> 5p adptr/A4000 kbd bdle	58.95
ADPT-EZK2-W95	Mk2 Amiga/PC k/b->A1200 rib cab+Win95 kbd	38.95
ADPT-HD-2/3	2.5"/44way -> 3.5"/40w+4w & mtg bracket	11.95
ADPT-HD-3/5	3.5" Zip/SyQuest/FDD/HD brkt/pl ->5" bay	5.95
ADPT-KBD-5P6P	Amiga/PC k/b adapter 5p din-F ->6p m/d-M	5.95
ADPT-KBD-6P5P	Amiga/PC kbd adapter 6p mindin-F ->5pd-M	5.95
CAB-KBD-MF	5p DIN M - 5p DIN F k/b ex cable 1.2m	7.95
ADPT-DF0-FP	Tower faceplate adapter for A1200 int FD	6.95
ADPT-DF0-TWR	34-34 way cable and faceplate for DF0	12.95



Eyetech EZ-VGA   Elbox IDE-Flyer

Interfaces and Adapters: A1200 Ethernet

ADPT-ETH-BNCT	BNC T-piece 2xM + 1xF	4.95
ADPT-ETH-TERM	Ethernet BNC coax terminator 50R	4.95
ADPT-PCM-ETH-C	PCMCIA ethernet card with Amiga/PC drivers	89.95
ADPT-PCM-ETH-H	Hydra PCMCIA ethernet card with Amiga drvrs	129.95
CAB-ETH-60C	Ethernet coax/BNC-F 60cm for Siamese	9.95
CAB-UPT-X60C	Crossed twisted pair/RJ45 for Sisys 60cm	6.95

I/F & Adapters: Flickerfixers, VGA Adapters, Monitor Leads

ADPT-VGA-BV4M	BVision 4MB gfx card for A1200 (needs PPC)	169.95
ADPT-VGA-M2SD	EZ-VGA-Mk2 external s/doubler PLL u/gradable	74.95
ADPT-VGA-PLFF	EZ-VGA-Plus external flickerfixer 23F-15F PLL	119.95
ADPT-VGA-SDUG	SDBL2 to SD-flickerfixer u/g	50.00
ADPT-VGA-INSD	EZ-VGA internal A1200 s/doubler non-upgrad'le	59.95
ADPT-VGA-INFF	EZ-VGA- internal A1200 flickerfixer	89.95
ADPT-VGA-SESD	EZ-VGA-SE s/doubler 23F-15M Xtal not u/g	59.95
ADPT-VGA-SEFF	EZ-VGA-SE flickerfixer 23F-15M Xtal	99.95
ADPT-VGA-15M23M	VGA 15pHD-M -> 23pD-M Amiga RGB adapter	14.95
ADPT-VGA-15M9F	Adapter from 15p HD-M VGA to 9pD-F	9.95
ADPT-VGA-9M15F	Monitor adapter 9p D-F to 15p HD-M	9.95
ADPT-VGA-AMON	Auto Amiga/CV643D m/sync monitor switch	39.95
ADPT-VGA-UNBF	Amiga 23 pin(f)-15 pin HD(f) VGA adapter	12.95
ADPT-VGA-BUF	Amiga 23pin-F to 15pinHD-F buffered adapter	19.95

I/F & Adapters - IDE/ATAPI, Serial, Parallel & Floppy Drive

INT-IDE-FLYR	Elbox 4-dev high performance buf'd A1200 IDE i/f	68.95
INT-12I-EZCD4	Mk4 4-dev buf IDE i/f w/AIPU w/A1200 CD s/w	38.95
INT-12I-EZCD4/C	Mk4 4-dev buf IDE i/f w/3x40,2x44 13cm cabs	48.95
INT-12I-EZCD4/CE	Mk4 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	58.95
INT-12I-EZCDSE	Economy 4-dev buf IDE i/f w/A1200 CD s/w	24.95
INT-12I-EZCDSE/C	Econ 4-dev buf IDE i/f w/3x40,2x44 13cm cabs	34.95
INT-12I-EZCDSE/CE	Econ 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	44.95
INT-4KI-CD4	4-device EIDE i/f for A4000 w/CDROM s/w	19.95
INT-FDD-DF0	Interface for std Sony FDD for DF0 880KB	14.95
INT-SER-PTJR	PortJunior - 460KB serial i/f for A1200	39.95

Zorro 2/3 Boards and Adapters

GFX-Z2-CV643D	C64/3D graphics card w/out f/fixer (limited stock)	149.95
ADPT-VGA-AMON	Auto Amiga/CV643D m/sync monitor switch	39.95

Cables & Cable Adapters: Audio & Mains

CAB-AUD-CD	CDROM invt0d T audio cab .6m + 2xRCA plg	9.95
CAB-AUD-MIX	RCA(phono)-M -> RCA-M+RCA-F mix lead 1.8m	6.95
CAB-AUD-2M2M	RCA(phono)-2xM -> RCA2xM stereo lead 1.8m	4.95
CAB-AUD-MJ/PH	3.5mm st minijack->2xphono-M plugs 1.2m	5.95
ADPT-AUD-RCA	RCA(phono)-M -> 2xRCA-F adapter	2.50
ADPT-AUD-RCA-G	RCA(phono)-M ->2xRCA-F gold plated adapt	3.50
CAB-IEC-1.5M	AC power cable 13A plug -> IEC skt 1.5m	2.95
CAB-IEC-4X13	AC powerstrip 1xIEC-M -> 4x13A-F mains skt	19.95
PLUG-IEC	Rewirable IEC monitor plg for PSUs/MT/DT	4.95

Cables & Cable Adapters: Serial, Modem, Phone, SCSI, Printer

CAB-SER-EX2M	DB25-M -> DB25-F RS232 extn cab 2m	7.95
CAB-SER-EX50C	DB25-M -> DB25-F RS232 extn cab 0.5m	6.95
CAB-SER-NUL2M	Null modem cable w/ D9F & D25F at each end	9.95
ADPT-SER-25F9M	25p-F to 9pM serial RS232 adapter	4.95
ADPT-SER-25M9F	25p-M to 9pF serial RS232 adapter	4.95
CAB-BT-EX10	10m BT extn cable + 2 way phone adapter	9.95
CAB-BT-MOD	FCC684/6 to BT4 modem phone lead 1m	5.95
CAB-SCS-25/50	SCSI cable DB25-M -> Cent50-M 1m	9.95
CAB-SCS-25M/25M	SCSI cable DB25M-DB25M mac type	9.95
CAB-SCS-50M/50M	SCSI cable Centr50M->Centr50M 1m	9.95
CAB-SCS-50H/50M	SCSI-2 cable 50h/pDM->Centr50M 1m for PPC	19.95
CAB-PAR-FULL	Bidirectional printer cable all pins connected	9.95

Cables & Cable Adapters: VGA, Keyboard, Switchboxes & Cables, Scart Cables

ADPT-SW-S/K	Dual monitor & k/b switchbox	19.95
CAB-KBD-MF	5p DIN M - 5p DIN M k/b cable 1.2m	7.95
CAB-VGA-MF	15p DM-HD - 15p DF-HD VGA ext cable 2m	9.95
CAB-VGA-MM	15p DM-HD - 15p DM-HD VGA cable 2m	9.95
ADPT-SCAR-CMP	Amiga comp video (RCA)+2xAudio to SCART	12.95
ADPT-SCAR-RGB	Amiga 23p+2xRCA to RGB TV SCART + audio	12.95

Cables: HD, CDROM, Floppy, Clock Port Data and A1200 HD power

CAB-PD-40F44F	2.5" (44F) to 3.5" (40F) data cab adapt for A1200	9.95
CAB-PD-2F	Power splitter floppy drive to hard drive + floppy	9.95
CAB-PD-30C	44->40way 3.5" HD data & pwr cabs -A1200	14.95
CAB-HD-KIT	A1200 full 3.5" hard drive fitting kit	24.95
CAB22-2W-9C	22way-Fx2 A1200 clock port cable 9cm o/a	5.00
CAB34-2W-50C	34way-F x2 FDD ribbon cable for tower	9.95
CAB40-2W-20C	40 way IDE cable 2 connector 20cm	5.00
CAB40-3W-1M	40Way IDE/HD/CD cable 3 connector 1m o/a len	9.95
CAB40-3W-60C	40w-F x3 HD/CD/IDE cable 20+40=60cm o/a	9.95
CAB40-CUST	Custom cable 3x40way IDE up to 1.5m	19.95
CAB44-2W-13C	44way (2.5" HD) cable 2 cntr, 13cm o/a	9.95
CAB44-2W-60C	44way (2.5" HD) cable 2cntr, 60cm o/a	19.95
CAB44-3W-12C	44way (2.5" HD) cable 3 cntr, 12cm o/a	12.95
CAB44-3W-24C	44way (2.5" HD) 7+17cm,3 cntr,24cm o/a	14.95

Cables: HD, CDROM, Floppy Power Splitters - Tower Systems

CABPW-1W-1F	Power converter cab HD-M -> FD-F	4.95
CABPW-2W-1H1F	HD/FD pwr splitter HD-M->1xHD-F/1xFD-F	6.95
CABPW-2W-2F	FDD power splitter 4pM->2xFD-F	6.95
CABPW-2W-2H	HD/CD pwr splitter 4p-M ->2x 4p-F 15cm	6.95
CABPW-3W-2H1F	HD/FD pwr splitter HD-M->2xHD-F/1xFD-F	8.95
CABPW-3W-3H	HD power splitter HD-M -> 3xHD-F	8.95
CAB-HD-PWXTN	4p-M -> 4p-F HD/CD power cab ext 0.9m	9.95
CAB-HD-FD/4	23p-M-floppy -> 4p-F HD/CD pwr 0.9m	9.95

CDROM Systems including EZ-Tower & MT/DT Bundles

CD-CP-20X-SE	CDPlus-SE system 20 speed with CDROM s/w	85.95
CD-CP-32X-SE	CDPlus-SE system 32 speed with CDROM s/w	98.95
CD-DT-20X	CDPlus Desktop 20 speed with CDROM s/w	109.95
CD-DT-32X	CDPlus Desktop 32 speed with CDROM s/w	129.95
CD-FT-20X	CDPlus EZ-Tower 20 speed with CDROM s/w	189.95
CD-FT-32X	CDPlus EZ-Tower 32 speed with CDROM s/w	209.95
CD-MT-20X	CDPlus MiniTower 20 speed with CDROM s/w	119.95
CD-MT-32X	CDPlus MiniTower 32 speed with CDROM s/w	139.95
CD-PL-20X	CDPlus Gold system 20 speed w/ EZIDE s/w	149.95
CD-PL-32X	CDPlus Gold system 32 speed w/ EZIDE s/w	169.95
ADPT-AUD-CDSE	CDPlus-SE A1200/CD audio mixr/adapter	19.95
ADPT-CDPL-PWR	CDPlus-Gold external power skt + HD pwrcab	9.95
CAB44-CD-13C	44way (2.5" HD) cable solid with CD/HD 13cm	6.00
CAB40-DDC	A1200 IDE skt adptr 40F-40M with mtgs 15cm	9.95

CDWriter Systems including EZ-Tower & MT/DT Bundles

CDR-UG-2x8	EZWriter 2/8x w/MakeCD for A4k,Twr	249.95
CDR-PL-2x8	EZWriter-Gold external 2/8x w/MakeCD	299.95
CDR-DT-2x8	EZWriter Desktop 2/8 speed w/MakeCD	299.95
CDR-MT-2x8	EZWriter MiniTower 2/8 speed w/MakeCD	299.95
CDR-FT-2x8	EZWriter Full EZ-Tower 2/8 speed w/MakeCD	379.90
CDR-CDSE-UG	EZCD-SE+40+44way cabs + CDROMs/w w/CDR	20.00
CDR-CDM4-UG	EZCDMk4+40+44way cabs + EZIDE s/w w/CDR	30.00
CDR-DSK-10	Recordable CD media (WORM) 74 mins	19.95
DVR-MCD-TAO-P	MakeCD TAO (P) Amiga CD rec s/w w/ATAPI	38.95

EZ-Tower Systems, MiniTower/Desktop Cases & Accessories

CASE-FT	Full PC Tower, 250W PSU, modable for A1200	49.95
CASE-FT-1200	Full A1200 Tower 250WPSU,LED adpt,FD cab	99.95
CASE-FT-EXKT	EZ-Tower conversion kit - No PC Tower	39.95
CASE-FT-KIT	EZ-Tower kit w/ bkpnl for self conversion	79.95
CASE-FT-PLUS	Full A1200 EZTWR, EZKEY i/f, PC kbd (w/vchr)	138.95
CASE-DT	Desktop case with 200W+ psu for HD/CDROM	29.95
CASE-MT	MiniTower case with 200W+ psu for CD/HD	29.95
ADPT-AUD-EZTW	EZTwr audio mixr/adapter for A1200/CDROM	19.95
ADPT-SCSI-EZTW	EZTwr SCSI adpt 30cm 2xCent50F, 1xIDC50F	19.95
CAB-SER-SSQ	9pDM->9pDF SurfSq EZTwr ser extn cab 50cm	9.95

SVGA Monitors - require Scandoubler and/or Flickerfix to use all Amiga modes

MON-14-.28	14" SVGA 0.28DP 1024x768@60Hz - 3yrO.S.	129.95
MON-15-.28	15" SVGA 0.28DP 1024x768@60Hz - 3yrO.S.	169.95
MON-17-.28	17" SVGA 0.28DP 1280x1024@60Hz - 3yrO.S.	299.95
MON-17-.26	17" mon 135MHz, 0.26DP 1600x1280@75Hz	399.95
ADPT-MON-SESD	EZVGA-SE ext s/dblr non-u/g'able pur w/ mon'r	45.00
ADPT-MON-SEFF	EZVGA-SE ext flickerfixer purch w/ monitor	85.00
ADPT-MON-M2SD	EZVGA-Mk2 ext s/dblr u/g'able purch w/ monitor	60.00
ADPT-MON-PLFF	EZVGA-Plus ext flickerfixer purch w/ monitor	99.95
ADPT-MON-INSD	EZ-VGA internal s/doubler purch w/ monitor	45.00
ADPT-MON-INFF	EZ-VGA internal f/fixer purch w/ monitor	85.00



Digital Cameras and Amiga Digital Camera Software

CAM-FUJ-DS7	Fuju DS9 cam, psu, LCD disp, mem crd w/ s/w	299.95
DVR-CAM-CAS	CamControl s/w for Casio QV10/100/300	39.95
DVR-CAM-FUJ	CamControl s/w for Fuji DS5/DS7	39.95
DVR-CAM-KOD	CamControl s/w for Kodak DC20/DC25	39.95
DVR-CAM-MIN	CamControl s/w for Minolta Dimage V	39.95
DVR-CAM-OLY	CamControl s/w for Olympus 420L/820L/1000L	39.95
INT-12I-PTJR-SP	PortJnr hi-speed ser i/f pur with CamControl s/w	30.00

Amiga CDROM, CDWriter, IDE/ATAPI, Printer, Scanner & Video Software

DVR-EZIDE	EIDE/ATAPI HD/CDROM/ZIP/LS120/SyQst drvr	34.95
DVR-EZIDE-CU	P/x upgrade to EZIDE from compet product	19.95
DVR-EZIDE-SP	EIDE/ATAPI enhancer/CDROM s/w bundle pri	16.95
DVR-MKCDP	MakeCD(P,TAO) Amiga CD writing s/w	38.95
DVR-SQ3	ScanQuix3 w/ 1 Amiga scanner driver	59.95
DVR-PHS	PhotoScope UMAX-SCSI Amiga scanner driver	59.95
DVR-ENPR	EnPrint. Amiga printer dvr for pre 03/97 Epsons	9.95
DVR-TBPR6	TurboPrint 6.x Amiga printer driver English	38.95
ADPT-SQ3-PAR	SQ3 adapter Epson scanner->par prt cable	9.95
SCN-FBA4-BDL2	UMAX award-w'ing SCSI A4FB scanner w/ s/w	179.95

Hard & Floppy Drive, CDROM, LS120 & Zip Mech. & Cases

CD20-BARE	Bare 20 speed CDROM mechanism for twr/A4k	39.95
CD32-BARE	Bare 32 speed ATAPI CDROM mechanism	48.95
FDD-ITL-1200	Replacement A1200/600 int FDD 880KB	24.95
FDD-ITL-BARE	Bare 1.44/880 FDD for tower (needs i/f)	19.95
FDD-ITL-D/C/I	Twr int 880Kb FDD(Sony/EZDF0/cab bundle)	34.95
FDD-ITL-D/I	Twr intl 880Kb FDD (Sony/EZDF0) No cable	29.95
HD2-21	21MB 2.5" hard drive 90 days warranty	29.95
HD2-170	170MB 2.5" hard drive	69.95
HD2-540	540MB 2.5" Hard Drive	89.95
HD2-720	720MB 2.5" hard drive	99.95
HD2-1.4	1.4GB 2.5" hard drive for Amiga	139.95
HD2-1.8	1.8GB 2.5" Hard Drive	169.95
HD3-1.7	1.7GB 1"x3.5" HD non-Instant Drv for Tower	99.95
HD3-2.1	2.11GB 1"x3.5" non-InstantDrive for twr	109.95
HD3-2.5	2.56GB 1"x3.5" HD TowerDrive - Amiga	119.95
HD3-2.56	2.564GB 3.5" InstantDrive for Amiga	149.95
HD3-3.2	3.2GB 1"x3.5" IDE drive for tower	129.95
HD3-4.3	4.3GB 1"x3.5" IDE drive for tower	149.95
HD3-LS120	Panasonic LS120 floppy/optical 1.4/120MB	79.95
HD3-LS120-CT1	Single 120 MB cartridge for LS120 drive	14.95
HD3-LS120-CT3	3-pack of 120MB (nominal) LS120 carts	34.95
HD3-ZIP-CT1	Single 100MB (nominal) Zip cartridge	14.95
HD3-ZIP-CT3	3-Pack of 100MB (nominal) Zip cartridges	34.95
HD3-ZIP-IDE	Bare ATAPI/IDE Zip drive internal	79.95
CAB44-CD-13C	44way (2.5" HD) cable solid with CD/HD 13cm	6.00
CASE-ZIP	Metal slim case-FDD/IDEZip/SyQuest/LS120	9.95
CASE-HD-ECON	External 3.5" HD case no psu	19.95
CASE-HD-REM	Removable drive case for 3.5" HD (metal)	24.95

Keyboards, Mice, Trackballs, PSU's, misc h/w & s/w

FAN-60MM	Cooling fan for A1200 60x60x25mm 5/12v	14.95
KBD-A1000	A1000 keyboard with 6-pin mini-Din cntr	39.95
KBD-A1200	Replacement A1200 k/b w/ribbon cable	24.95
KBD-A4000	A4000 keyboard with 6-pin mini-DIN plug	34.95
KBD-WIN95	Windows 95 keyboard with 5-pin AT DIN plug	19.95
MOD-EXT-14	Modem AT 14.4dat/14.4 fax+EU psu/tel cab	19.95
MOU-WHI	Amiga mouse - white/cream -with mousemat	6.95
TKB-AM	Amiga trackball 3-button replaces std mouse	14.95

Wet weather weary? Browned-off with rust?

Never mind, here are three very special, time-limited offers from Eyetech to cheer you up again!

Buy a 20 or 32-speed CDPlus-SE and get an Elbox IDE-Flyer (AF 98%, Aug 98) for just **£49** (regular price £68.95)	Buy an Apollo or Phase 5 (PPC) accelerator and get memory for it at **25% discount**	Buy a DIY or Full EZ-Tower and an EZ-Key adapter and get a compatible PC key-board **FREE OF CHARGE**

All offers valid only with this coupon and against prices in this issue. These offers are valid until 15/09/98

Products marked in red are SPECIAL VALUE ITEMS

PSU-100	100w PSU for Amiga (fit your old lead - inc cntrs)	29.95
PSU-200	200w PSU for Amiga (fit your old lead - incl cntrs)	39.95
PSU-230	230/250w replacement PSU for MT/DT/FT	29.95
PSU-A1200	A1200 23W PSU (original) 90 days warranty	19.95
SPK-16W	16W PMPO speakers w/ PSU 3.5mm jack	10.95
SPK-60W-INT	Internal mounting 60W PMPO speakers/amp	24.95
VID-CKT	Cocktel Amiga videoconferenc'g s/w by ProDad	39.95

Accelerators: PowerPC with 680x0 Co-processor

ADPT-VGA-BV4M	BVision 4MB A1200 gfx card pur w/ PPC acc	149.95
ACC-PPC-16-4025	Bliz'd PPC603/160MHz+040/25/FPU/ no SCSI	238.95
ACC-PPC-16-6050	Bliz'd PPC603/160MHz+060/50/FPU no SCSI	448.95
ACC-PPC-24-4025	Bliz'd PPC603/240MHz+040/25/FPU no SCSI	348.95
ACC-PPC-24-6050	Bliz'd PPC603/240MHz+060/50/FPU no SCSI	568.95
ACC-PPC-16S-4025	Bliz'd PPC603/160MHz+040/25/FPU/SCSI-2	288.95
ACC-PPC-16S-6050	Bliz'd PPC603/160MHz+060/50/FPU/SCSI-2	498.95
ACC-PPC-24S-4025	Bliz'd PPC603/240MHz+040/25/FPU/SCSI-2	398.95
ACC-PPC-24S-6050	Bliz'rd PPC603/240MHz+060/50/FPU/SCSI-2	618.95

Accelerators: Apollo 680xx

ACC-060-66	Apollo '060 MMU/FPU 66MHz A1200 accel	317.95
ACC-060-50	Apollo '060 MMU/FPU 50MHz A1200 accel	267.95
ACC-040-40	Apollo '040 MMU/FPU 40MHz A1200 accel	187.95
ACC-040-33	Apollo '040 MMU/FPU 33MHz A1200 accel	157.95
ACC-040-25	Apollo '040 MMU/FPU 25MHz A1200 accel	127.95
ACC-30EC-25	Apollo 030/25MHz no MMU/FPU (8MBmax)	44.95
ACC-30EM-25	Apollo 030/25MHz/MMU no FPU (8MBmax)	54.95
ACC-30LC-25	Apollo 030/25MHz/MMU/FPU (8MBmax)	64.95
ACC-30EC-33	Apollo 030EC/33MHz no MMU/FPU (8MBmax)	49.95
ACC-30EM-33	Apollo 030/33MHz/MMU no FPU (8MBmax)	59.95
ACC-30LC-33	Apollo 030/33MHz/MMU/FPU (8MBmax)	69.95
FPU-EC/M-33	33Mhz PLCC FPU pur'd with Apollo 30EC/30EM	10.00
ACC-630-33	Apollo '030 MMU/FPU 33MHz A600 acc to 32M	69.95
ACC-630-33+32	A600 accel 030/33MHz/MMU/FPU/32MB (max)	99.95

Memory: Simms, Zip RAM & FPU's

MEM-32MB-72P	72 pin 32 MB 32 bit simm for Amiga	39.95
MEM-16MB-72P	72 pin 16MB 32 bit simm for Amiga	29.95
MEM-4MB-72P	72 pin 4MB 32 bit simm 70 ns	9.95
MEM-8MB-72P	72 pin 8MB 32 bit simm for Amiga	19.95
MEM-ZIP-20P	1MB(2chip)60ns Zip RAM HMS514400-6 Pg md	14.95
FPU-PGA-40	MC68882 PGA FPU 40MHz OK for 50MHZ	29.95
FPU-PLCC-33	MC68882 PLCC FPU 33MHz	19.95
PT-EXT-PLCC	PLCC extractor tool for 33Mhz FPU	9.95
ACC-4/60-SSKT	Apollo 1240/60 2nd simm socket & fitting	20.00

WB Disks, k/s ROMS, Manuals etc

SYS-WB3-DSK	Amiga WB3.0 disksx5 + Eyetech HD install	14.95
SYS-WB3-SET	Amiga WB3.0 disks x5 + Workbench manual	18.95
SYS-WB3.1-DSK	Amiga Workbench 3.1 disks x6 (/w HD inst)	14.95
SYS-KS3.1-ROM	A1200 Kickstart 3.1 ROM chips (2 chips)	29.95
SYS-KS3.1-SET	A1200 K/s 3.1 ROMs & WB3.1 dskx6 (no books)	36.95

EZPC-Tower & Siamese Systems & Components

CDR-BARE-2/8-SP	Internal ATAPI CD-R 2xw 8x u/g with EZPC pkg	199.95
EZPC-SIA-CF3	EZPC SiSys/Ene/t3.2/64/32x/32v/mpeg/A4scnr	999.95
EZPC-SIA-CF3-UG	EZTower/EZKey/kbd u/g to EZPC-SIA-CF2	879.95
PSW-W95/SS97	Windows 95 & Lotus Smartsuite 97 Bundle	99.95
SCAN-SCEX-6KSP	Mustek ScanExpress 6000SP w/PC SCSI card	99.95
SYS-SIA-ETH	Siamese sys2.5 w/PC,Amiga ethernet	189.95
SYS-SIA-R25	Siamese system software RTG v2.5	99.95
SYS-SIA-R21	Siamese serial s/w RTG v2.1 (ref'ble agnst v2.5)	24.95
SYS-TCP-SIA	Miami TCP/IP stack for Amiga (Siamese only)	19.95
SYS-TCP-MIA	Miami TCP/IP stack for Amiga (reg'n fee paid)	24.95

CD32, SX32 & Accessories

ADPT-KBD-SX32P	SX32 Pro PC k/b adapter cable 10cm	9.95
CD32-JOY	CD32/SX32 joypad	9.95
CD32-PAL	CD32 console with 18Wpsu/joypad/RF lead	149.95
SX32-MK2	SX32 Mk2 Ram/Clock/FPU expander for CD32	149.95
SX32-P40EC	SX32Pro030EC 40MHz simm to 64MB, FPU skt	199.95
SX32-P50	SX32 Pro 50MHz '030/MMU Simm, FPU skt	269.95

A1200 Magic Packs & Accessories

AMP-STR-FDD	A1200 Starter Magic pack FDD vers /w s/w	184.95
AMP-STR-HD1	A1200 Starter Magic pack w/170 HD & s/w	248.95
AMP-MCD-PK3	Amiga M P 20xCD/1.7GB/'040-25/16MB/MT	598.95
AMP-PDV-PK3	A1200 Mgk pk 170MB/'030-33/8MB	328.95
AMP-PDV-EZT	A1200 Mgk pk 170MB/'030-33/8MB & EZTW+	448.95
AMP-PRO-PK3	A12 EZTwr Pro2 '040-33/32MB/4.3PCkb/20xCD	799.95

Workshop Services

FIT-EZ-MAIN	A1200 to EZ-Tower fitting - A1200 +1 drive	30.00
FIT-EZ-XTRA	Fitting per customer-supplied periph into EZtwr	7.50
REP-AM-2B/1D4	A1200 motherboard rev 2B or 1D4 fix	30.00

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Software/Cables, EZCD I/F = £3.00, 2.5" Drives, Accelerators, Manuals = £7.00, 3.5" Drives, FDDs, PSUs, SX32 = £9.00, CDPlus, Minitower, Desktop = £11.00, EZTW & EZPC = £15.00. Worldwide in 2-7 days from receipt of faxed order & payment details.

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PART 1

NETWORKING made simple
Amiga-to-Amiga Networks

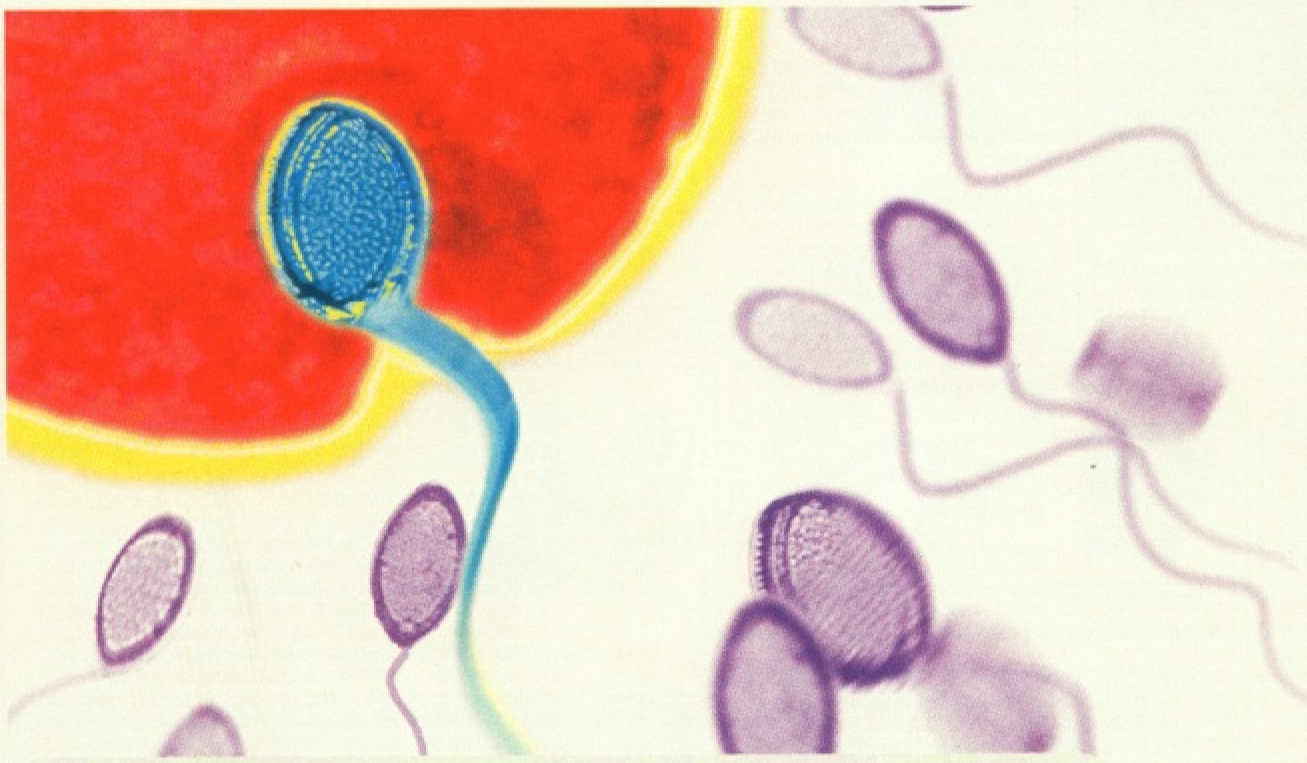
Networking is one of the biggest areas of modern computing at the moment, with the advent of the Internet and the growth of home computers.

Anyone with a modem is connecting into two networks every time they dial their service provider, firstly the network system your ISP has in their offices, and then onto the global Internet itself. But networks need not be this grand, and neither does it have to be quite so feature packed.

If you own more than one computer of any type, or are in a situation where you have the ability to link up with other computers, the benefits are vast. The reasons for connecting one machine to another, particularly one Amiga to another are huge:

Recent releases such as Quake, Doom and Ultimate Skidmarks all have support for multi-user games in at least one form or another. The common link between them is the ability to use a fixed cable connection for this purpose, although some games also support dial-up access through modems or across the Internet.

While at university, I had my first run-in with networking when a fellow Amigan in the room above me challenged me to a



Hydra Ethernet Cards
White Knight Technology
Minimum requirements: WB 2.04, 2Mb RAM, Zorro 2 slot, SANA II compliant networking software, and hard drive.
Zorro: £159
PCMCIA: £129
✆01920 822 321

We won't cover Ethernet here in too much detail, suffice to say that there are some solutions available. In part 3 of this series we will cover the whole concept and technology of Ethernet in detail.

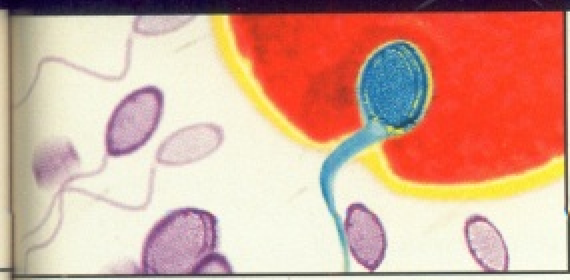
Hydra is the only manufacturer of Amiga Ethernet hardware at the moment, producing equipment for Zorro-based machines and for use in the PCMCIA slot of the A1200 and A600.

Zorro-based Ethernet is the fastest solution, as the fast bus speed of Zorro 2 and 3 boards allows data to flow through the card at a realistic speed. The Hydra card has both BNC and the more modern RJ45 socket (the one that looks like a US phone socket) and can throw around data at around 10MB per second (about the same as a slower PC network card). Zorro-based cards also put hardly any pressure on the CPU, unlike other options.

Such is the variable performance of the PCMCIA port that Hydra had to engineer a whole new PCMCIA slot card to bundle with their A1200/A600 network card to get it to work properly. According to Hydra, this is because the built in port on these machines is so variable that they had to produce their own adapter card to ensure that everyone had the same hardware functions. The PCMCIA slot adapter plugs into the slot already on the A1200 and A600, with the Ethernet network card (which is actually a laptop card made by IBM) plugging into the new port. You can by all means plug the Ethernet card straight into the A1200 (as in some cases it does work), but if it doesn't work, you'll have to run it through the new slot (but don't worry, it won't cause any damage to your hardware trying). CPU usage with the PCMCIA card is a much different matter.

All devices using this port generally hog CPU time, and the Ethernet card is sadly no exception. Like the Squirrel, the system can crawl while accessing data (though some machines strangely doesn't seem to suffer this), although does not completely freeze like the ParNET. Nonetheless, if you have the PCMCIA free, Ethernet makes more productive use of it in terms of speed than most other devices available.

Best For:
Transferring of files larger than 2MB, access to high speed shared devices, connecting machines over distances longer than 100 metres and distributing Internet access between two or more computers.



match of the classic race game Stunt Car Racer. After half an hour with a soldering iron and some surplus cable from the IT department, we constructed a 10 metre Null-modem cable, which connected to the serial ports of each of our machines and travelled between our two rooms by means of a slightly ajar window. A crude solution but very effective, and we later went on to use the link for bouncing huge animation files between our machines, with a reasonable 115K transfer rate.

But gaming is only one of a number of uses for a network. Take all those users who upgraded from earlier models of the beloved miggy. There must be countless hundreds, thousands and hopefully millions of you out there with an A500 or such like packed away in the loft, lacking a use or a home since you bought that A1200 for instance.

You could get it out of the loft, connect it to your A1200, and in one move you have a second machine with access to a hard drive, CD-ROM and any other storage device you might have attached to your newer machine.

Perhaps you already have that second machine in use, in the house you may have two users, both with their own machines. You could consolidate them together so that they can share files without the hassle of floppy disks or even split a single Internet connection between them.

Anyone with a CDTV or CD32 need no longer use it as a monitor stand or a flowerpot. While both machines sadly fell by the wayside before their time, they both contain a piece of hardware that is extremely sought after by anyone using an A500 upwards – a CD-ROM drive. While you won't get 300K per second out of a CD32 by hooking it up to your Amiga, you can still use it as a fully functional CD-ROM, finally giving you access to the new wealth of CD-ROM software like our very own CU-CD or the equally fantastic Aminet compilations.

Many university halls of residence now have sockets that allow connection to their main computer network, giving you access to their permanent Internet connection (24 hour mail connection, web access, ability to do your course work and send items to printers whenever you want, which in my case was normally after the pub and definitely after the IT centre closed for the day).

Another option is to use two or more machines to split the workload of a task, such as rendering for example. Use the slower machine for the not so demanding task of designing the drawing variables, passing the files to the other, more powerful machine for the actual rendering, leaving you a free computer to carry on with the next frame while the other is occupied producing the graphic. The same applies to things like printing, formatting disks or compiling programming code – all things that tend to put pressure on your computer's multitasking capabilities.

Of the various ways to network a computer, there are in fact three that are most relevant when connecting your Amiga to one or more other Amigas:

LapLink cable:

A Parallel lead that connects two computers together via their printer ports, allowing them to simultaneously transfer data between them, or work on a Master/Slave principle, whereby one machine uses the one as a passive storage unit, being able to see it and its devices, while the other one cannot. Owners of laptop PCs, who use them for connecting to their desktop computers in order to exploit CD-ROMs and such, mostly use these cables. As with anything associated with laptops, the price of these cables is a little higher than the Null-Modem, with the average high street price coming in at about £15.

ParNET

Software: Shareware/Freeware on Aminet
Hardware: First Computers
£15
✆0113 231 9444

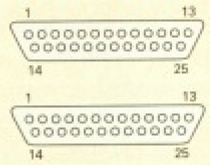
ParNET uses a Parallel cable, often known as a LapLink cable (a tedious PC term if ever there was one) to form the connection between the machines. As with SerNET, this network was designed really only to link a single pair of computers together, although it is theoretically possible to create a multiple machine network through the use of additional add-on parallel ports (such as the HyperCom) ever intended for connection two machines together. Whether the CPU could handle the workload is another thing entirely.

The main use for ParNET is really in file transferring through drive sharing, as currently there are no games or network management applications that support cable link-up connections other than serial ones.

ParNET works by installing a network device driver called Œparnet.device, on each of the two machines. This device, when linked together provides a gateway to the storage devices on each machine, with each computer using a set of assigns channelled through the device NET: or NETWORK: which is mounted when the connection between the machines is established. Within the device appears all the available drives that are mounted on the other machine in the link, and visa versa. Any data read or written through the device is transferred through the printer port, which is where the link falls down slightly.

Whenever data is transferred between the machines, the load placed on the CPU, as with normal printing, is huge, causing the computer to almost lock up. While this only happens when the port is in use, such a load can play havoc with your applications, oh don't be surprised if you get at least the odd rash when running programs that are not extremely robust under normal use.

ParNet Parallel Cable



(To Computer 1).

(To Computer 2).

25 PIN D-SUB MALE to Computer 1.
25 PIN D-SUB MALE to Computer 2.

Name	Pin	Pin	Name
Data Bit 0	2	2	Data Bit 0
Data Bit 1	3	3	Data Bit 1
Data Bit 2	4	4	Data Bit 2
Data Bit 3	5	5	Data Bit 3
Data Bit 4	6	6	Data Bit 4
Data Bit 5	7	7	Data Bit 5
Data Bit 6	8	8	Data Bit 6
Data Bit 7	9	9	Data Bit 7
Acknowledge + Select	10+13	10+13	Acknowledge + Select
Busy	11	11	Busy
Paper	12	12	Paper Out
Signal Ground	17-25	17-25	Signal Ground

You cannot expect to get equivalent data transfer speeds out of the remote drives, but you will get a decent transfer rate out of the Amiga printer port and any decent accelerator card will take things up a notch or two. Transfer speeds will be in the region of 40K per second on an unexpanded A500, and up to 90K on a fast 060 machine. Those people lucky to have add-on Parallel ports on both machines in the link (things like a HyperCom, for example) can easily expect a transfer speed of 150K per second, if not more.

Software support for the ParNET standard is basic, comprising of a selection of shareware and freeware available via Aminet or any good PD library. The first ParNET utilities tended to be Shell based, due mainly to the use of assigns over actual device mounts. Since then, Various updated versions have appeared, including improved GUIs, along with more control over transfer speeds and CPU priority.

Best For:
People with a fast machine (040+) who need to share and access drives using a file manager (Directory Opus for example). People needing CD-ROM or hard drive capabilities on a machine that is not easily expanded (A500 for instance).

AmigaLink
AmiTrix Development
$210 US Dollars for a two unit package
Minimum requirements: WB 1.3, 1Mb RAM, and Spare disk drive port. www.amitrix.com
✆1+403 929 8459

If you fancy more than the simple file transferring or slow two-way drive sharing, then you really need to look at a fully function peer-to-peer networking kit. And on most computer platforms, that normally means Ethernet.

Unless you have a Zorro or PCMCIA equipped machine and those slots are free, your already limited options for Ethernet-like hardware are all but dead, or at least it would seem so.

Every Amiga already has a non-standard, but more than capable built-in port that can be engineered for networking, but which has been rather under exploited in this way by all but one product, itself sadly unnoticed by the Amiga community. Canadian developers AmiTrix Development created a networking adapter that could exploit the existing hardware capabilities of none other than the external disk drive port.

While this is not an industry standard (in other words, used by PCs and Macs) networking option, and indeed not up to the speeds of Ethernet, the AmigaLink system is the best solution for linking multiple Amiga units together, particularly when you have a mixture of Zorro, PCMCIA and A500 hardware.

The AmigaLink system is deceivingly non-standard, in that it only works between Amiga machines, but utilises industry standard cable and connectors while still offering particularly a pretty good transfer speed. By using the disk drive port, network transfers make use of floppy disk DMA resources, taking much of the load off the CPU, so you can still multitask without any noticeable loss of performance, unlike SerNET and particularly ParNET.

AmigaLink uses a customised dongle for its hardware, which plugs into the external disk drive port on ANY Amiga model – wonderful if you go into palpitations at the thought of cracking the seal on your machine. If you already have external floppy drives, you can still use it, you just connect the dongle to the through port on the last drive in the chain, although be warned that using AmigaLink means you can only have three external drives, instead of the normal maximum of four. Transfer speeds are in the region of 45K per second on an unexpanded A500, which although not in the same league as Ethernet, is much better than you could ever reliably get from ANY Amiga serial or parallel port. That said, transfer speeds will vary depending on the type of processor you have, and an 060/66 can push this up as high as 150K. Best of all, this transfer rate will be maintained in the background.

The dongle comprises of a small I/O controller circuit board and a BNC network socket, the same socket found on PC Ethernet cards, though the network AmigaLink creates is *not* compatible with its PC counterpart. Such connectors allow the use of conventional Thin Ethernet connecting cable (otherwise known as RG58 coax cable) which is extremely cheap to buy (those good people at Maplins sell the stuff off the drum at just 41p a metre). This cable can be up to 100 metres long between each machine (unlikely, but you never know!) and is easily available in ready-made lengths from high street stores such as Dixons, Tandy or big computer retailers like PC World. Better still, have a look around your workplace. If you use BNC network cables there (and there is a fair chance you do), you may be able to liberate some leftovers for your AmigaLink network.

Up to 20 machines can be connected to the network, with all their drives and printers sharable across the network. Software drivers come in the form of a SANA II driver, which is the Amiga standard for networking, making the network compatible with any network software of note (AmiTCP, Miami, AS225 to name but three) and of course network games such as Quake and Doom. Also bundled with AmigaLink is version 2.0 of Envoy (see other box) allowing you to write network applications and administer your network properly.

The basic kit consists of two dongles, the AmigaLink software, Envoy (2-unit licence), BNC connectors & terminators and 5 metres of cable. Additional dongles, licences and splitter cables for external disk drives with no pass-through are also available.

Best For:
Networks under 20 Amiga machines, needing fully multitasking drive sharing and inter-network communication abilities, connecting machines over distances longer than 10 metres.

Null-Modem cable:
A serial lead that replicates the basic function of a modem, by linking the send lines on one machine directly to the receive line of the other, and visa versa. The result is as if there were a modem

Envoy 2.0
LH Publishing
£19.99
Minimum requirements: WB 2.04, 512K RAM, and SANA-II compatible network hardware.
✆01908 370230

Envoy is the definitive peer-to-peer networking package for the Amiga, developed by Commodore's Amiga Networking Group.

Envoy provides a simple messaging interface for developing network applications. Moreover, it comes bundled with a stack of ready-made applications for administering your network, letting share hard disks, CD-ROMs and printers be accessed by the network as transparently as if they were attached directly to your own machine. In short, it is the Amiga's best equivalent to something like Novell NetWare.

External applications can interface with it to provide shared access to Internet connections, allowing you to share one modem or ISDN connection across your Amiga network, or provide internal mail, network gaming and multi-user databases for example.

Envoy is amazingly stable, allowing machines in the network to crash without the slightest effect on the others, connecting and disconnecting seamlessly. Applications included allow you to toggle individual access rights, passwords, network messages and log activity, data access and monitor printer usage (very Big Brother, but great for knowing who to blame when the cartridge runs out in your printer and the last person to use it doesn't tell anyone).

Anyone looking to create and actively use an Amiga-specific network with sensible network management tools, across any hardware connection cannot afford to work without it.

Best For:
Administering networks where security is important and interfacing with a TCP/IP stack is necessary.

attached to each machine, and the two modems had formed a connection over a telephone line. Due to their industry standard nature and commonplace use, the price of these cables is very cheap, with any reputable electronics shop being able to sell you one for about £10.

Null-Modem Pinouts DB-25 to DB-25			Null-Modem Pinouts DB-9 to DB-9			Null-Modem Pinouts DB-25 to DB-9		
2	to	3	1 and 6	to	4	2	to	2
3	to	2	2	to	3	3	to	3
4	to	5	3	to	2	4	to	8
5	to	4	4	to	1 and 6	5	to	7
6 and 8	to	20	5	to	5	6 and 8	to	4
7	to	7	7	to	8	7	to	5
20	to	6 and 8	8	to	7	20	to	6 and 1

Peer-to-peer:

A fully two-way connection, usually via an Ethernet card, using coax cable (similar to the stuff used in television aerials) which allows two or more computers to share drives, printers, communications links transparently to the users. Under the peer-to-peer, no single machine acts as a server, as each machine is daisy chained to the next, rather than all the connections converging on a single unit. Peer to peer connections normally need something like an Ethernet card or other network adapter add-on, which in the case of the Amiga means costs of £100 per machine and higher, although the speed and reliability of peer-to-peer is far superior to the former two. The coax cable is however ridiculously cheap, costing literally pennies per metre.

Of the various options available to you (full details of which are in the box-outs), you need to ask yourself the following questions:

1) **How many machines do I want to network together?**
2) **What facilities/devices do I want available to the machines being networked?**
3) **How much do I want to spend per machine?**
4) **How important is speed against reliability?**
5) **How often will I actually be using the network?**

Whatever your usage for the Amiga, be it serious or leisure inspired, connecting it to another and forming a network link offers a new lease of live to games as well as giving you a simple way to utilise the hardware and capabilities of other Amiga models, whatever they may be. ■

Chris Green

Next Month:

Next month we will be looking at some of the ways your Amiga can exploit the capabilities of today's PCs.

ProNET
Software: Aminet
Hardware: First Computers
£15
✆0113 231 9444

This is one of a number of variants of the ParNET software (using the same cable), which is particularly popular as a method of using remote drives. Unlike the original ParNET utilities, ProNET actually mounts the drives of the other machine as physical devices on your Workbench display, complete with their icons, giving the devices exactly the same behaviour attributes as physical drives.

The ProNET software, like most other ParNET packages is very basic, with just a plain graphic interface and a device driver placed on each machine involved in the hook-up. Simply running the ProNET start-up script on both machines sends the network into life, with each one waiting until the other is ready before forming the link. Once the link is in place, the device icons of the machines mount themselves on the Workbench display and behave as any other storage device, with read/write access available to either machine.

Other advantages of the ProNET system include faster network boot-ups and the ability to form the initial connection on the fly, as opposed to start-up, as is common in other utilities. Where it does fail is in its ability to cope with crashes and hang-ups. If one machine crashes, you cannot reconnect to the other one in the same session, at least without first rebooting both machines. Also, both ProNET and the original ParNET are very prone to crashing, an unfortunate by-product of the huge workload placed on the CPU every time data is shifted between the machines. Sadly this often results in one machine dragging down the other, so anyone using a Parallel based connection really should consider saving work very, very regularly!

Best For:

People with a fast machine (040+) who prefer or need to access drives and save/load/copy files via Drag and Drop than through a file manager. People needing CD-ROM or hard drive capabilities on a machine that is not easily expanded (A500 for instance).

SerNET
Software: Aminet
Hardware: First Computers
£10
✆0113 231 9444

The serial port on your computer is among the more versatile points to connect to a network from. Anyone with a modem does it all the time whenever they log onto the Internet or a bulletin board, so it makes sense to use this ability for a cable connection.

SerNET simply uses the Null-Modem cable to connect the two machines, while the software provides you with much the same facilities as the ParNET packages do, in that the drive devices on each machine are mounted on the other, providing a means for file transfer, albeit at much better speeds. Again, this was only designed for connecting a single pair of machines, but in theory should support multiples through the use of add-on serial ports, but is not guaranteed to work!

Unlike Parallel connection, using the Serial port, particularly a buffered one as found in the Squirrel, Whippet, Multiface and various HyperCom-like devices, allows you to achieve reliable high-speed transfer, in the region of 115K to a theoretical high of 400K+. Sadly, the internal Serial port of the Amiga is less than wonderful, being hampered by the CPU which can have a variable effect on transfer speeds, although you will not experience anywhere near as much slowdown in operational speed during transfer.

Of course the other advantage of the Null-modem cable is that it is invariably supported by multi-user games, giving you a second use for the network which is not available with the Parallel equivalent.

Software comes in the form of a single incarnation of the SerNET package, available from Aminet or any good PD library. Surprisingly, SerNET has not seen so much development over the years as ParNET has, except for an optimised version intended for connecting a CD32 console to a standard Amiga in order to exploit it as a CD-ROM drive.

Best For:

Low-cost multi-player gaming (Doom, Quake, Skidmarks etc), file transfer over distances under 10 metres. Connection between two machines only.

Old Dog, New Tricks

It's odds on you've got at least one other Amiga sitting around somewhere, gathering dust in a lonely corner, bereft of use to man or beast. That's what you thought anyway. Go and dig it out now, because it's about to recieve a whole new lease of life!

Over 5 million Amigas have been produced since 1985, by Commodore and Escom. Nobody knows exactly how many users there really are, but almost everyone can agree that there's certainly far less than 5 million. Many, if not most Amiga users own more than one machine. Maybe you upgraded from an A500 but wanted to keep it around to play old incompatible games, and/or you couldn't really sell it for very much. Maybe a friend or family member had an Amiga but passed it on to you when they said "I don't need this – can you use it?". Maybe you've been stockpiling them. Or maybe you found someone at a boot sale who didn't know what they had there and only wanted a fiver for "that old piece of junk".

You can do more than just take pride in your stash. There are a number of dedicated or cooperative uses you can engage your 'spare' Amigas in. Even if you don't already have multiple machines, some of the suggestions here are so inexpensive you may want to rush right out and say "Yes, I'll give you a fiver for that old piece of junk"!

Just the fax

It's a snap to repurpose a spare Amiga as a fax machine. Virtually any system will do – Amiga fax software like GPFax and STFax is very sparing in system requirements. Usually 1MB of memory is plenty. A hard drive is always nice to have but faxes, being only two colors and of fairly low resolution, don't require much space so a floppy drive or two would actually be sufficient for incoming faxes, provided nobody needs to fax novellas to your home. As for the faxmodem, most modems built in the past few years all have fax capabilities. Virtually all standalone fax machines still transmit at 9600, although two faxmodems talking to each other can transmit at higher rates. Still, that means that a 9600 or 14.4k baud modem is 100% up to the task of serving in this sort of a role, and in this age of 56k modems such old models aren't jealously guarded by anybody.

If you're content to read faxes on your screen, you could call it a day at this point. Or if you want to see some input, why not put that old inkjet printer nobody's using on the parallel port? Even a disused inkjet gives a better image than most nasty thermal print fax machines do. If you want to originate documents, it would be useful to have a word processor on the machine for composing letters (remember that most Amiga fax software allows you to 'print' faxes from word processors and other programs). The final step, if you find you need to fax a lot of unique documents, would be to add a scanner, but that would represent more expense than the rest of the pieces of the system put together. It's actually very easy to get by without one, but if you do feel you need one, consider hooking it up to your main machine and scanning documents there, shuttling across the resulting images using a floppy or a network.

Barring the scanner, it's not at all a stretch to say that every piece of a dedicated Amiga fax machine could be assembled off the scrapheap. Stick it off in the corner, put a small old TV or the like on it, and check it periodically to see if that record contract has come through yet.

▼ **GPFax, veteran fax software.**



Render Farm

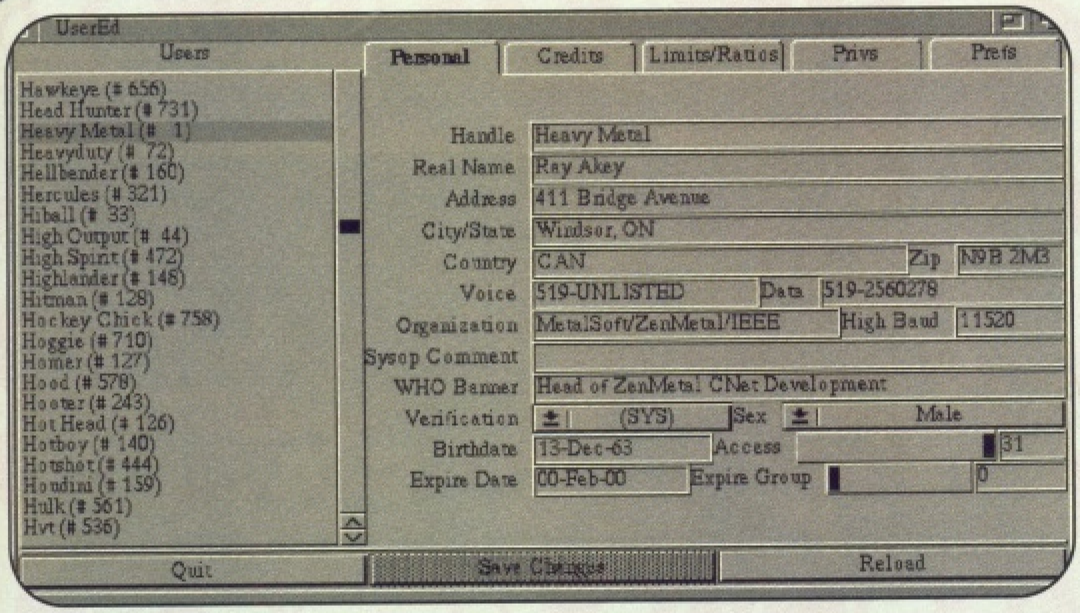
Some of the best work in special effects has been done with a few Amigas working together. Even without a true network, you can set up your own humble FX studio for those extravagant Imagine or Lightwave creations, involved ImageFX renders, or anything else that demands more CPU power than one Amiga is capable of giving in an acceptable time frame.

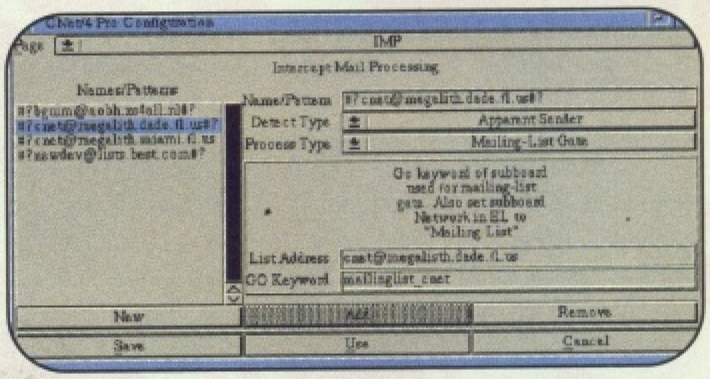
The issue is this: if you're rendering an animation, you need to create a lot of frames first. That can take time. Although eventually all of those frames need to wind up on one computer to be squished into an ANIM, an MPEG, a CDXL, or whatever your poison happens to be, nobody said they all had to be created on the same machine. By taking a few minutes to parcel out the work to a few other Amigas, you can save yourself a lot of time in the long run. You could just turn over your computer to the rendering software for the next week, but that's not much fun.

In theory, any machine is good enough, although if you have a project too ambitious for your main Amiga, throwing another A600 or two at the problem is not likely to be a big help. Anything with an FPU is a more reasonable criterion, and anything with an 040+FPU or better is optimal. Before you begin, it might be a good idea to put pencil to paper to keep track of where all of your work is being done and where it needs to get back to at the end.

For example: let's say you want to create a 30-second Imagine render of a space battle. At 30 frames per sec-

Open a BBS

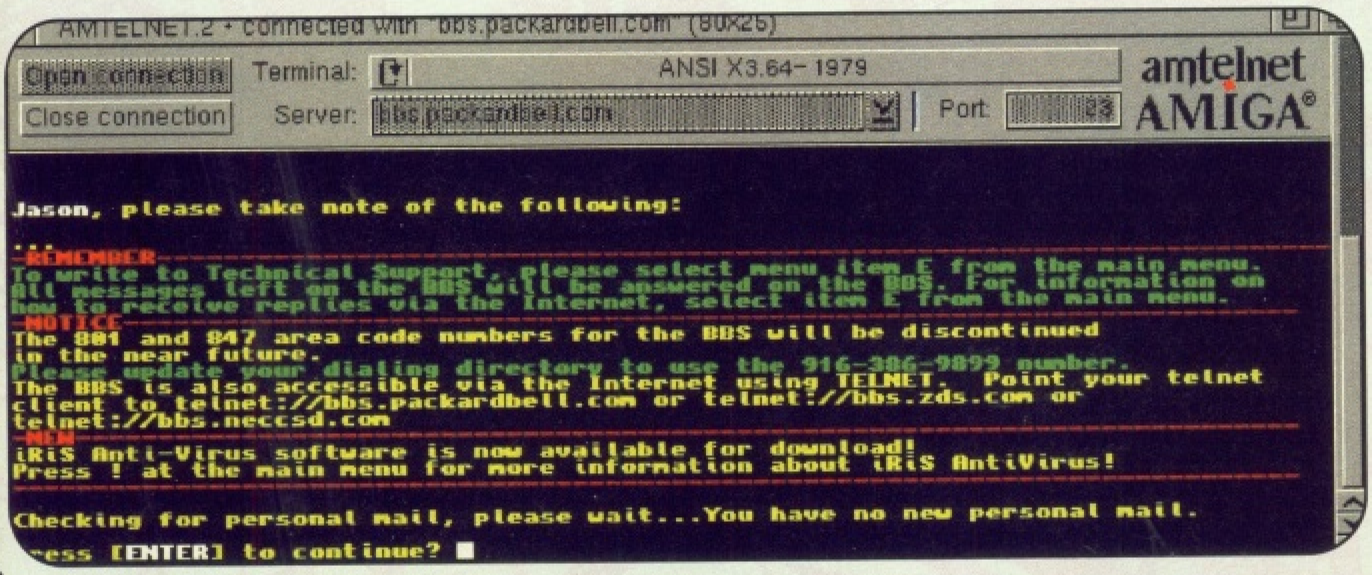




▲ **C/Net is one of the most popular and flexible Amiga BBSes.**

Although the BBS craze of the 80s has been plowed over by the Internet explosion of the 90s, there's still a lot to be said for the 'old fashioned' electronic forums. The nature of a BBS is that its clientele are usually from a fairly limited radius, lest the phone charges get exorbitant. The Internet, by putting the world at your fingertips for cheap rate, made the allure of leaving e-mail for the guy down the street less appealing. But as the Internet moves on, some are beginning to recognize that while chatting with Lower Mongolians can be fun, they're just not people you can get to know and meet for dinner someday. Local BBSes provide that more intimate contact, which has been diminished in spirit a bit by the globalization of the Internet.

Of course, that's not to say that BBSes have to limit themselves to the neighborhood. Systems like C-Net for the Amiga can interface with an ISP and bring Internet mail, FTP, and newsgroups to their users. It can be the best of both worlds. And what was that old Amiga doing before you turned it into a BBS, anyway? BBS software is not the most resource-intensive, although the more hard drive space and CDs you can hang on your system for your users, the happier they're likely to be. The same goes for modem speed. Running a BBS can be a lot of work if it's done right – just ask anyone who's tried – but it can also be a lot of fun, particularly if you can convince the locals to spend less time chattering aimlessly on IRC and more time talking with people they might actually stand a chance of meeting someday.



ond (a nice smooth animation speed) that's a total of 900 frames. Your main machine is rigged with an 060 card, but you've got a couple of machines with lesser accelerators kicking around. Since the 060 is the real workhorse, it should get most of the frames to do. Furthermore, the opening few seconds of the animation will mostly be a black starfield while the end has all the real interesting stuff going on. That means the 060 should probably take the later frames in the sequence and leave the easier, early stuff for the slower boxes. So you'd copy the project file and the objects over to the other machines. Set your main machine to render out frames 400-900, and set the other two to render 1-199 and 200-399. It's not an exact science, but hopefully you can plan out your rendering so that all of the machines get done at more or less the same time.

Getting the project and object files over to the other two machines probably won't be much of a task. If you have a network it's an absolute cinch, but even if you don't many animation project files will fit onto a few floppies. It's getting all those frames (in our example, the 400 we rendered on the two spare machines) back to your main computer that's the trickier part. A network makes it a no-brainer, but if you don't have one you'll probably need the services of a Zip drive or other large removable media. In an absolute pinch you could always unhook the hard drive from each machine and temporarily attach it to your main computer to read the files directly off, but that's messy and time-consuming. A drive like an external Zip is much more convenient – even if you only have one, hooking and unhooking it from the odd SCSI bus is much easier than ripping internal hard drives out left and right.

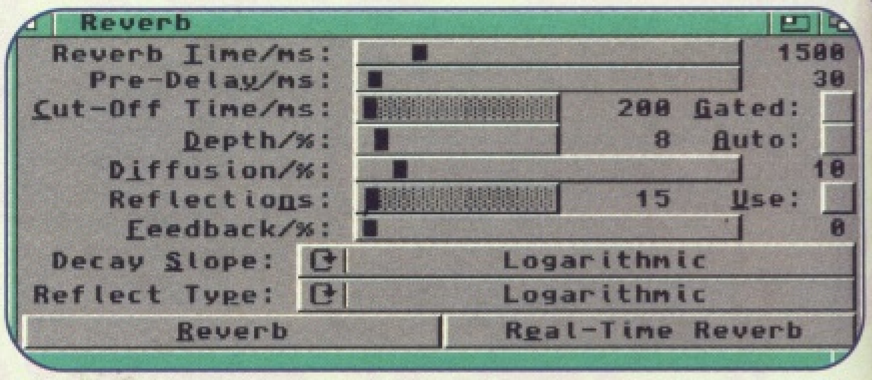
If you had a network, you could also consider having the two slower machines render across the net directly to your main computer's drive. But accessing the network drive may slow down both the source and destination computers, since the computers will spend more CPU time worrying about network and hard drive I/O, time that they could be spending on your render. It's best to experiment first. It's probably in your best interest simply to wait until all of the rendering is done if time is of the essence.



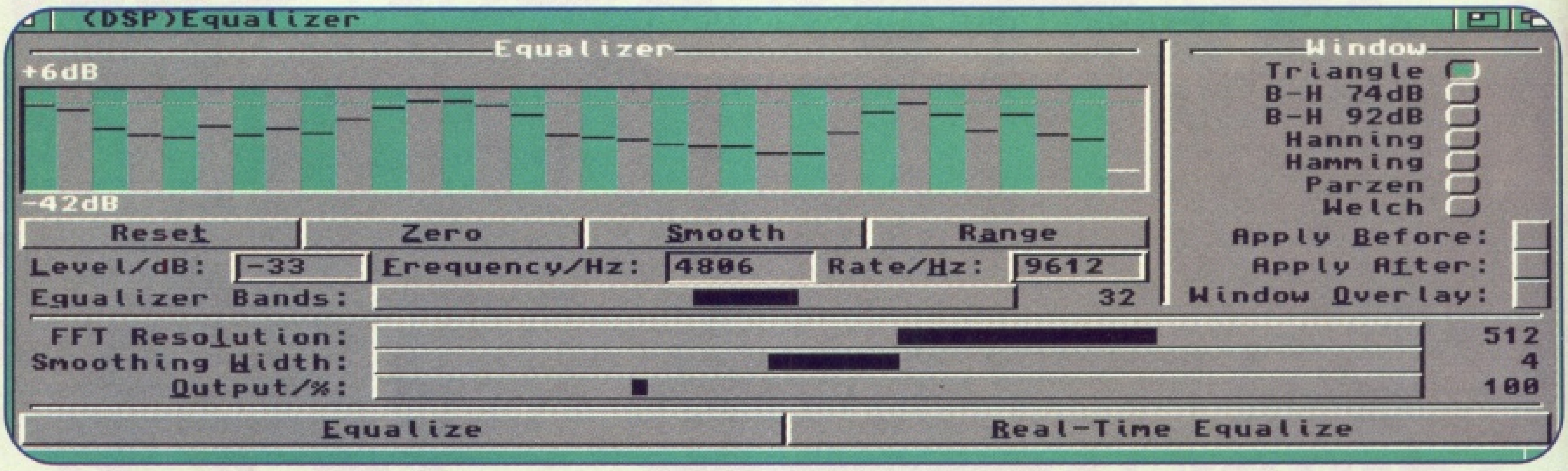
Musicmakers

In a musical situation a second Amiga can take on a variety of useful jobs. Realtime effects processing is within the scope of even a 68000 Amiga, which means you can employ even a bog standard A500 as a phaser, flanger, or general wibble box that can fit anywhere you want to put it within your audio set-up. Just a cheap 8-bit parallel port sampler and some sampling software is all you need to turn it into a box that can process any sound in realtime. For example, you could have it rigged up to an effects loop on your mixer or even permanently hooked up to one of your other Amiga's audio outputs. Even if you make your music with live instruments you can still put an Amiga to good use as an effects box.

The practice of synchronising two Amigas to get eight good quality channels from the internal sound chips has been well documented and is still used in professional situations. Hard drive



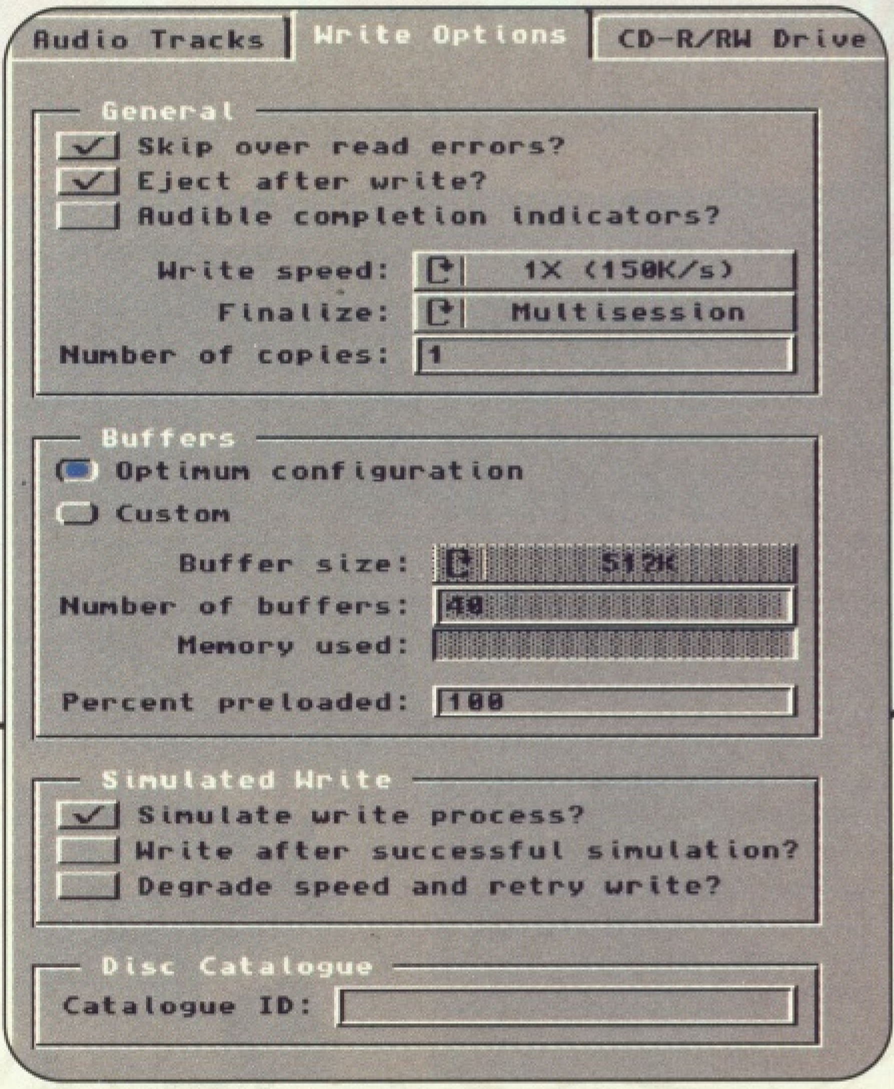
recording is another possibility. If your main Amiga doesn't have the muscle to do its stuff and record to hard drive at the same time, why not share the load bewteen a couple of machines?



CD Station

The CD-Recordable (CDR) software available for the Amiga is top-notch, quality stuff. But the nature of CDR-burning is still a little touchy. Virtually everyone with a CDR drive also has a few 'expensive coasters' – CDR discs that, because of an I/O error, interference from the user or the shifting of the tides failed to burn properly and has become permanently useless. In general, CDR burning works best when it is allowed to take its course, uninterrupted and unmolested. And although CDR drives have become very affordable lately, they are not available to mere mortals at very high speeds, so burning a disc can still be a time consuming process. So, if you want to let it run its course without interruption, you have to leave your system alone during that process – no aimless web browsing, cleaning up disused hard drive directories, or anything else that might cause a nasty system hiccup and spoil the disc.

Here's where a nice spare system comes in handy. CDR burning doesn't really require your machine to be a speed demon, just to have a good IDE or SCSI controller and a CPU capable of keeping up with a couple of drives flawlessly over a period of several minutes. With such a setup, you won't lose your primary computer just because you have to burn a CDR. With drives and media becoming cheap enough to make CDRs a viable option for small software outfits to produce their own CD product in-house, keeping a primary development machine free while the CD duplication is going on could be critical.



There are plenty of things you can do with an extra Amiga or two, other than let them rot in a box somewhere. Be creative! Hook up a MindEye for an endless interactive eye candy display. Set it to work nonstop on cracking encryption keys as part of the global contests that are so popular these days. When the machines of the future come, the machines of the present will deserve better than to be shoved under the bed.

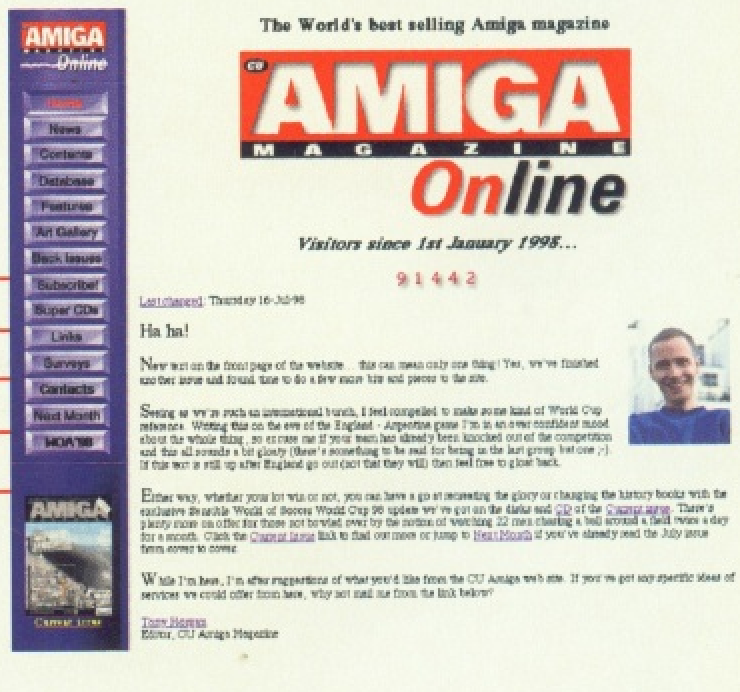
If you've come up with an ingenious use for a previously pensioned-off Amiga, write in and let us know about it! ■

Jason Compton

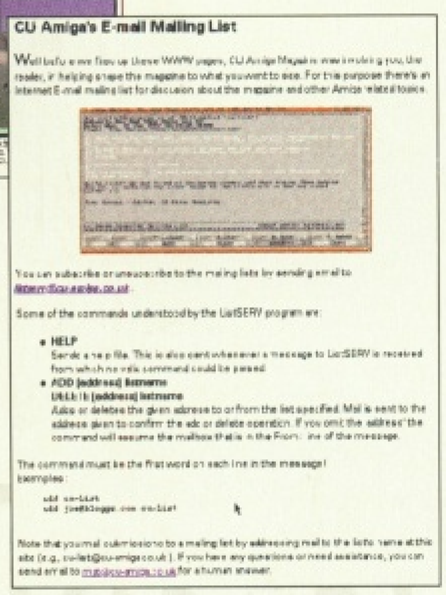
See You Online!

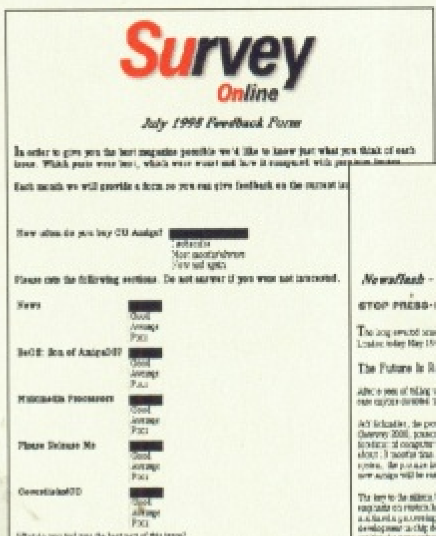
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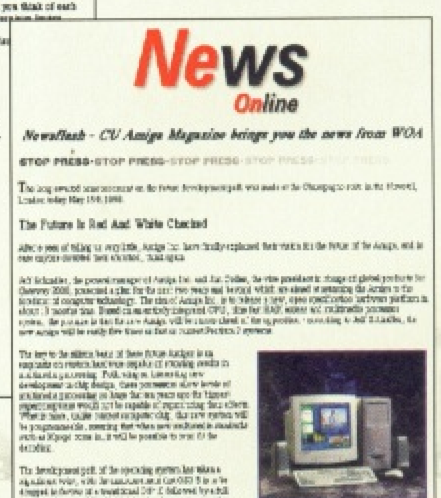
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ScreenScene

Preview special time! Here are just some of the titles we'll be seeing over the next few months. All this plus a new game from Australia, the ultimate Doom/Quake add-on, and Paul Burkey's guide to his superstar winning game, Foundation.

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46 Paul Burkey's Foundation tips



Virtual Grand Prix

You may remember some months ago we had a very impressive looking demo of a racing game on the CD, sent to us by amiga programmer extraordinaire Paolo Cattani, who likes to go by the name The Alien. There seems to have been a real explosion of Amiga games programming in Italy of late, but alongside Lorenzo Caprio's Golem, it is VGP (previously known as Alien F1) which has been hogging the attention.

Virtual Grand Prix is looking pretty pleasant on the eye, but the feature list suggests it's not all sound and fury. With 16 tracks, 22 different cars and the full 1998 GP season to drive, there should be plenty of challenge. The physical modelling is very detailed, with accurately simulated kinematics and complex car differentiation with such features as tyres, camber, roll bars, brake balancing, gear ratios and so on all controllable.

VGP sports a TFX like virtual cockpit and support for mouse, digital and analogue joysticks, instant replays and multiple camera views. The graphics are 1 by 1 pixel in 320 by 256 or 320 by 512, with texture maps and gouraud shading. With all these features it is hard to believe it is going to run particularly well on anything less than PPC, but the current version actually claims 15-18 frames per second on a low end '030/25 in the low res mode! If all that wasn't enough, Paolo Cattani is turning his mind to thoughts of null modem links, digitised speech, texture and track editors and PPC support. As Murray Walker would say... absolutely amaaaazing!



▲ Virtual Grand Prix, the the computer game formerly known as Alien F1. Smooth shaded graphics and it runs even on a slow Amiga...

▼ Realtime strategy action; ClickBOOM's next game, NAPALM – Crimson Crisis.



Napalm

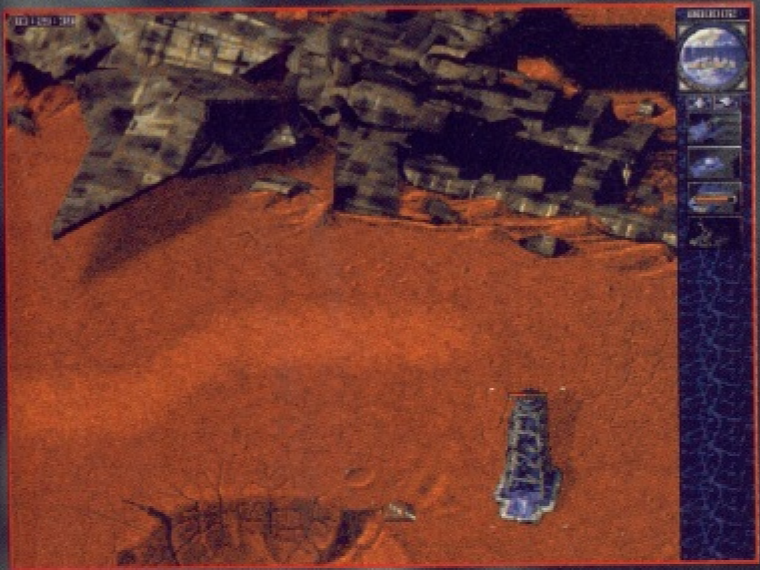
I have to confess I am a sucker for top-down real-time action games. I loved Cannon Fodder and Syndicate, and I was one of the hordes who saw in Westwood's Dune 2 the refinement of the genre into something truly great. Westwood went on to make Command and Conquer, and the rest is history. ClickBOOM's first home grown title since Capital Punishment belongs to this genre, and if that wasn't in itself enough to raise some interest, there is also the minor point that it appears to seriously kick ass.

Ever since Dune 2 sent you around the deserts of Arrakis mining spice, almost every game of this type has you mining, drilling or prospecting. In Napalm: Crimson Crisis, playing either the United Earth Defence Force (a bit more politically correct than the normal Yanks vs. Ruskies, Allies vs Axis stuff, but then

ClickBOOM are Canadians...) or their enemies the Robots, you have to locate a source of some kind of gloop I assume to be oil, and plant a mobile drill platform on it. Ship the gloop back to your refinery and the money comes rolling in, giving you the wherewithall to start building up your settlement and your arsenal.

Graphically Napalm is a definite winner – lovely, detailed backdrops and gorgeous buildings and units. Unless you have a high spec Amiga you'll have to play this one in low resolution mode, but don't worry, it still looks great that way, just bigger!. We're hoping to have the final release very shortly for review, but the version we have in is close to complete, and guess what? It plays great too. I got the feeling occasionally that my tank commanders were just a little thick and needed a bit too much constant supervision and building construction took too long, but hopefully that will be ironed out in the final release, leaving us with the joys of a truly excellent entry to the genre.

The unit design as far as I have seen is excellent (gotta love those triple tanks), and there are plenty of nice extras like aircraft.



▲ You want serious high-res backdrops? Napalm's got 'em!

There's network play on it's way, plus all the polish and professionalism we have come to expect from ClickBOOM. I'm booking a lot of late nights in front of my monitor well in advance...

Eat the Whistle

What's this? A new football game in a World

▼ Side on soccer? That's not too sensible!





Cup year? Madness! That's just what Italian developers Hurricane Studios have in mind, though. The tongue-in-cheek Eat the Whistle is nearing completion now, and based on what we've seen it should provide plenty of thrills to hardcore fans as well as casual, "I play Sensi once in a while" crowd. The Matchday style side-scrolling action can take place on a variety of pitch types, promising suitable changes in tactics and handling depending on the conditions. Team management is included, with various ability and statistics tracking. You can opt to play an entire game as a single player ("role-playing") or duke it out arcade style. A World Cup tournament will, of course, be included.

Players have inertia, making it more difficult to execute tight turns at a dead run downfield. Free and corner kicks are of the vector direction/height/power sort (rather than the simplified Sensible style), and a replay option captures it all for further review. (The replay was a bit buggy in the preview, however some ended quite differently than the real play, such as showing the keeper making the save!) A CD-ROM version is planned, complete with sampled commentary. What might set Eat the Whistle apart is its OS compatible nature. Virtually any screen mode, AGA or graphics cards, can be used, if you've got the CPU power to back them up. On a fast machine, you can play with nearly half the pitch or more visible at once. Third-party audio boards will be supported, as will CD32-style gamepads. Based on what we've seen so far, ETW could become a classic. It's shown a good balance between gameplay and realism, and the parody advertising boards are worth a look by themselves. So, if you're looking for a new venue to live out your aerial game dreams, watch closely for the review of the full version in an up coming CU Amiga.

Trauma Zero

Fans of old school shoot 'em ups haven't had much to cheer about of late. Every now and again someone produces an R-Type/Super Stardust clone which has lots of rendered graphics, but absolutely no imagination or gameplay. Yet



▲ Animated backdrops, smooth scrolling, fast action... must be Trauma Zero!

▼ Now here's a game that knows what firing missiles is all about.



another Italian job, Trauma Zero is in rolling demo form only at the moment, but there is something about watching it which just screams "gameplay!" at you. There's action, variation, cool bad guys and insanely destructive weapons, all things that make us think that Trauma Zero looks set to break the mould and bring that classic gameplay right up to date graphically. It's been quite a while

since a shoot 'em up got the drooling attention of everyone in the office, but this one has!

Trauma Zero has scalable graphics, running smoothly on an '030/50, but with extra graphic effects selectable for those with the CPU power to cope. It has hardware 50Hz scrolling, 1/4 pixel horizontal and 1 pixel vertical, and a custom fast sprite routine that can move 200 objects simultaneously at 25 fps on an '030. If you think that 200 is a lot of sprites, believe me Trauma Zero uses them – you should see some of the multiple fire weapons in action! A playable demo of Trauma Zero is due before long, and rest assured we'll be getting our hands on it – and giving it to you – as soon as we possibly can.

▼ Well it doesn't look entirely like Keith Gillespie to me. Dodgy player portrait courtesy of Samba World Cup Football.



Samba World Cup

More footy action, this time from Germany. Isn't it just like the Amiga games industry to release a couple of football titles a few months after the World Cup ends? Alive Media Software are bringing this German title over to the UK for the first time and anyone dissapointed with Championship Manager 2 should take notice.

Samba World Cup football is a management/action title that allows one or two players to wear the sheepskin coat of a football coach, with teams from the Premiere League, Bundesligia, and four other European leagues to choose from. There is full domestic competitions, plus European competitions and of course the World Cup if you fancy your hand at that.

As well as the normal host of statistics, there is an in-game action sequence that looks not a million miles away from Eat the Whistle, although rather more simple graphically. A Spoken commentary is promised, as is variable weather conditions and digitised stadium sound effects. If you are itching to prove that you could do a better job than Arsene Wenger, or could manage Newcastle without turning grey, you won't have long to wait – we are expecting a review version in a month or so.



Crystal update

Crystal Software have been busy expanding their operations, with their roster of titles now including Gilbert Goodmate and the Mushrooms of Phungoria, Archangel, Base and Goblin Tanks. Through their association with the separate but similarly named Crystal Software International, they have also signed development team ReNaissance, who are currently working on an XTR/super mario carts clone called Mazza K racing, a point and click adventure called Darklore scriptures, and a Tomb Raider clone called Cherry Elsewhere. Details of these titles is sketchy at the moment. Gilbert Goodmate, developed by Prelusion is now being developed concurrently as a PC title, the idea being that by putting both data files on the CD, Crystal will be able to release a dual format disc that will get in every high street games store. The graphics is being uprated to a more modern Monkey Island 3 style cartoony look, so it's going to take a little while, but should be worth the wait! Expect more about this new software house in an issue of CU soon. ■

Andrew Korn & Jason Compton



◄ A sample backdrop from the bizzarely titled Gilbert Goodmnate and the Mushrooms of Phungoria. Nice!

Time of Reckoning

■ **Price: £9.99** ■ **Available from: Weird Science**

✆+44(0)116 246 3800 http//www.sadeness.demon.co.uk

AMIGA MAGAZINE SUPERSTAR

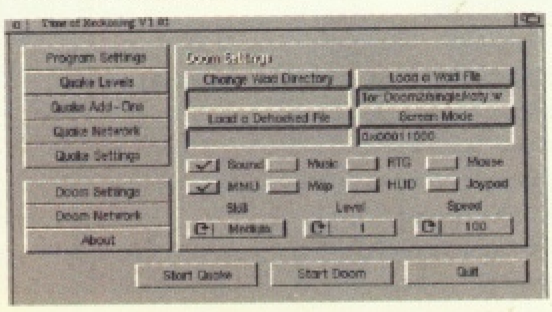
The ultimate add on CD? Time of Reckoning contains literally hundreds of add-ons for Quake and Doom, all with a nice easy front end.

Time of Reckoning is the result of two things; Wierd Science's expansion into the PC market and the severe case of Quake addiction suffered by Weird Science's Dave Law. Originally designed for PC users to expand Quake, Doom and Duke Nuke'em, when Doom arrived on the Amiga and the news broke that Quake was on the way, Weird Science were quick to work on an Amiga front end so that their loyal Amiga customers could join in the delights.

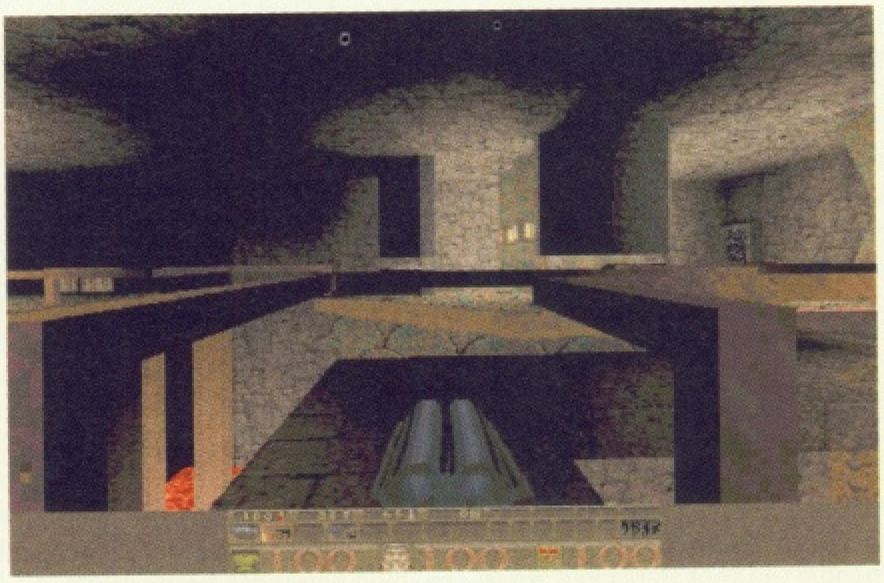
Time of Reckoning is fairly awesome in proportion; if you've enjoyed the extra Doom and Quake levels we occasionally put on our CUCDs, be prepared for something with just a little more depth. A chunk of the CD may be wasted on Amiga owners without any sign of an Amiga port of Duke, but the Doom and Quake sides account for more depth than you are ever likely to need. For quake there are about 350 custom levels, 100 extra weapons, a dozen or so bots and about 25 game modifying total conversion patches, 'bots (computer controlled players that can be anything from fake gamers to loyal killer guard dogs or dangerous Borgs assimilating all who cross their path) and so forth. Doom users get around 500 new levels to play with.

Option mania

The Time of Reckoning Front End comes on an additional floppy. Once installed, it opens a fairly straightforward GUI window on your Workbench, from which you can access the various options. The first thing to do is to tell it where you keep your Quake and Doom - Time of Reckoning is not just a collection, it actually launches the game for you, so it needs to know these things. It provides you with a large list of add-ons to choose from, installs them for you, generates the correct codes to launch them and can even delete the files from your hard drive after use.



For Quake, you get to use the Time of Reckoning front end to set up a lot of the things that are normally stored in your Quake config file, such as player name and uniform colour for multi-user games, cross hair on/off, CD audio etcetera. You can then proceed to set up your game by choosing any of the internal levels to start from, or any of the add-on levels. You can import weapons or bots, or run one of the total conversions. The Quake Networks option allows you to select what type of server connection you want, and whether you want single player, death match, co-operative, or teamplay competition play, and allows you to set maximum number of players, frag limits, and time. You can even access internet based Quake servers from it.



Doom players have it easier and even more controlled, with a simple page to select screenmode, wad (level file) directory or specific level file, dehacked file (if it works..), and select sound functions, MMU hack, music, map, and so on. A second page allows easy configuration of network play, with full serial and IPX network options.

Idiosyncratic?

There is a good reason why the Doom side is a little better configured than the Quake side - the Front End is written assuming ADoom, which is about the best and most popular of the Amiga Dooms, and therefore can access all the command line functions accurately and directly, while the Quake side was actually written before the Amiga version of Quake was available, based on a list of the commands rather than access to the full game. Ideally, I'd like to have seen a few more of the command line functions supported for Quake to take into account some of the idiosyncracies of AmigaQuake - we did find a couple of set-ups that AmigaQuake did not like, and the lack of a safe mode option is a pain if you have a few too many hacks in your system. An excellent touch which makes up for it on the Quake side is that for every level, there is a small screenshot which can be displayed in a viewer window at the touch of a button; the full docs are similarly easily available. For some reason this does not happen on the Doom side, although why the omission I cannot guess as the data is in fact there on the CD and works on the PC front end. If you like the idea of choosing your levels by browsing through the pictures, you can always fire up an image viewer and get to it that way, though.

Time of Reckoning is a whole lot more than just a collection of levels. You no longer have to worry about typing things into shell to get your Quake add ons to work, and it makes all the set-up functions and networking a doddle. It is excellent for the player who wants to play network games, but possibly even more so for the single player who can now set up capture the flag games or deathmatch competitions against a few bots with ease. At the new price of £9.99 it is a bargain that any Quake / Doom fan ought to have in their collection. ■

Andrew Korn

Time of Reckoning

■ CPU	n/a	Graphics	n/a
■ Number of disks	CD only	Sound	n/a
■ RAM	n/a	Lastability	98%
■ HD installable	200k+	Playability	n/a

OVERALL

A must have for Doom or Quake players, but could do with tweaking.

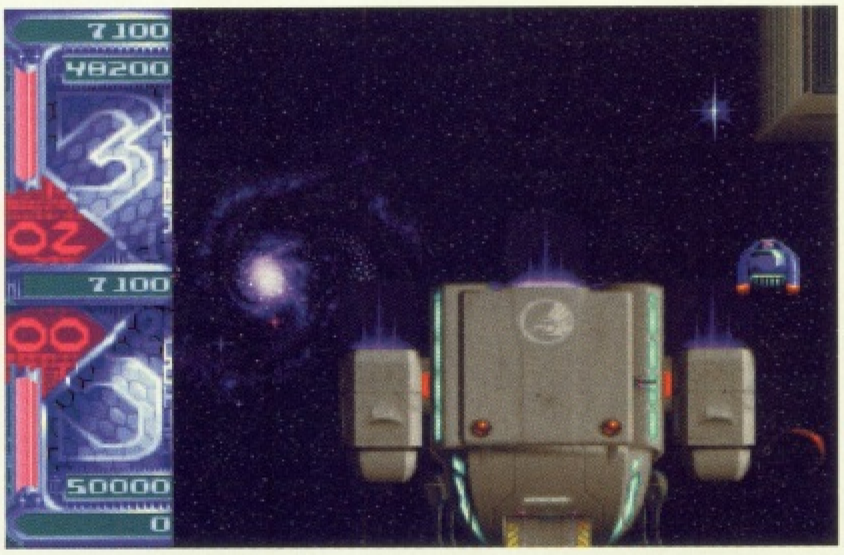
92%

Ultra Violent Worlds

■ Price: £14.95/AUS$39.95 inc. P&P ■ Vorlon, 133-135 Alexander St, Crows Nest, NSW 2065, Australia http://www.vorlonsoftware.com

One of the most enduring game genres makes a comeback, but do we really want it back?

Just because a game genre has come and gone doesn't necessarily mean that new entries aren't welcome. After all, most of the new waves in gaming in the 90s have come from extrapolating and expanding on the themes of the 80s. Real-time strategy like Napalm comes from turn-based strategy. First-person shooters come from old wireframe classics like Mercenary. In that vein, a new development/publishing label returns to the vertical scrolling shoot-em-ups of old with Ultra Violent Worlds, self-proclaimed to be light on fluff like background but heavy on action.



▲ That's you, the little blue ship on the right. Move the page erratically in front of your eyes and you'll be able to tell what it looks like when it moves.

Minimalism

True to their word, there's very little in the way of background. A passable intro sequence, viewed through what might be some sort of futuristic portable Amiga, outlines the impending demise of all life as we know it at the hands of an alien force bent on mindless destruction. Only you, or you and a friend, can save the Earth in your single-seater space fighters (wake up at the back!). A few nice rendered stills are ruined by the bad job they did of reducing the resolution of the images, but what the heck, I've played countless hours of Galaga with less to go on than this.

Once you get past the intro sequence, it's just a few seconds from blasting time. True to their minimalist design, there's not so much as an options screen to contend with – just pick the number of players and go. UVW includes the obligatory set of "earn money to buy better weaponry and bigger ships" powerups and the game teases you by bringing you to the store screen before you start the game – useless, since you don't have any money at all yet! All you get is your ship and a weak little three-way gun that's hardly up to the task. And then all you have to do is blast away until you win the game or the bad guys eat up all of your extra lives, whichever comes first.



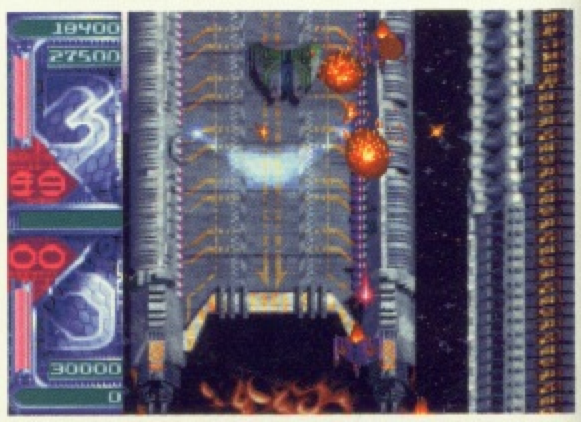
SEUCK City

Comparisons with the Shoot Em Up Construction Kit (SEUCK) game of your choice are inevitable. UVW is not actually a SUECK game, but it's on similarly rocky ground when it comes to speed, scrolling, variety (what variety?) and so on. The graphics are very detailed and rich, very reminiscent of Super Stardust's design. There are a couple of nice details, such as the directional thrusters that fire on both player ships and enemies when "turns" are made, and the progressive explosions of certain larger enemy vessels. The ability to change ships to play shield protection against speed is a bonus as well.

Unfortunately, that's where the positive comparisons with Super Stardust, or any other good game, must end. Super Stardust was one of those games which took an old concept – Asteroids – and brought it into the 90s with tremendous flair and skill. After just a few minutes at the UVW controls, it's very clear that it has brought the old vertical scroller kicking and screaming towards the turn of the century. The most fundamental aspect of a shoot-em-up, the collision detection, is extremely poor in this game. I couldn't believe my eyes when I saw my bullets pass straight through enemies without registering a hit. Not just once, or occasionally, mind you, but repeatedly. If you can't shoot the proverbial "em" up, there's not much point in playing.

If a game can't win on technical merits sometimes it can be salvaged by great atmosphere, but there's little help here. Aside from the graphics, which are quite nice, there's nothing else to praise. Sound effects are adequate and there is no music aside from the rather scratchy tune that plays in the intro (although you do get a load of audio tracks on the CD). They wanted to skip the fluff and get to the gameplay, but they didn't make it. Compound all that with a game that essentially requires you to boot without startup-sequence and is questionable for 060s, and you have very little to commend in UVW. I was excited by the layout of the opening level, sort of a cross between 1942 and Xevious, but my excitement turned to frustration and disbelief in very short order. I must conclude that this entry is decidedly vegetarian. There's no meat to it. Take a look at Trauma Zero this issue for an example of how a traditional shoot 'em up can, and should be done. ■

Jason Compton



▶ Nice graphics... shame they didn't spend as much time on their sprite and scrolling routines. Or gameplay for that matter.

ULTRA VIOLENT WORLDS

■ Processor	020, AGA	Graphics	86%
■ Number of disks	CD only	Sound	55%
■ RAM	4MB	Lastability	60%
■ HD	Required	Playability	40%

OVERALL
A frustratingly inadequate revival of shoot-em-up action

59%

Tips Central

CU Amiga's Adventure Guru from the north, Sjur Mathisen, lends a much needed hand to a few more desperate gamers.

Indiana Jones & the fate of Atlantis

I'm in the room outside Atlantis itself but I can't open the bronze door. Kerner has caught Sophia, and I don't know how to get her back. Have I missed something or gone wrong. Please help.
Natalie Bentley

To enter Atlantis you must find the wooden thing (ladder) in the dark and use it at the stone rubble. Climb the ladder, open the stone thing and take the rod. Put a bead into the rod and light the room. Use the disks with the spindle according to the lost dialogue, but with north and south reversed (as "entrance is yielded only to contrary minds"). The statue's mouth will open, and you feed a bead into it. The door opens, you take the ladder and the three disks. Enter Atlantis.

To save Sophia you have to do a whole bunch of stuff in the different rooms inside Atlantis. The exact position of the rooms changes from game to game. Explore all shaded places (marked by a question mark), open and enter all grates. I don't want to give away too much, so all I can say is that you should work your way through the rooms one by one, and then eventually you'll find Sophia.

Conquest of Camelot

I've made it to Gaza but now I don't know what to do, please help!
Eric Le Saux

When you enter Gaza, you will see a man and a boy. They will both persuade you to go with them. Go with the boy and he'll take you to his master. Ask him about stuff like the grail, Galahad, the goddesses, and their guardians, and other things you feel necessary to ask for. Write down the things he tells you like the names of the goddesses, and be sure to get the symbols down on paper as well.

When you are ready to go to the desert, you will see Jabir again. Don't hire him, but just continue into the desert. That should be enough to get you going again. I'd just like to give you a few final words of advice. Water may be poisoned.

Big Red Adventure

Having bought the New Pravda I'm now stuck trying to figure out how answer the questions on the free ticket that came with it. Do you know how?
Melanie Seale

I can guess. Head on over to McRomanov. Once there, go to the bottom right corner to examine the old red car and find a broken camera. Take the broken camera and examine it to find a brand new film and then walk over to the burger bar. Buy a vodkacola and then a sandwich. When asked Maxi or Gigantic, go for Gigantic, then go for the great bear burger. Don't eat your burger and don't drink your cola, just take the salt and the bread from the counter before walking back over to Red Square. Talk to the large bearded man standing first in line at the gum store. Your next target is the Japanese tourist standing in the middle of the square. Get him to take your picture using your camera, and try standing so that he snaps the statue in the background as well. Repeat this operation a few times before the picture is correct, so after taking each photo examine it. After a few attempts you should run out of film. Ask to borrow one from the tourist, before selecting the spare film until you manage to reload it. The fourth photo is correct, showing Doug beside the statue about half it's size.



Big Red Adventure

This will help to work out how high the statue is in cans of Vodkacola. Examine the photo then measure the can of cola with the tape measure that you found in the case. To do this, select the can and keep doing so until Doug works out what to do. The can is 12cm tall, Doug is 168cm tall and the statue is twice his height, so the statue is the height of 28 cans of Vodkacola. This answers Question 2 on the free ticket.
In order to answer Question 3, go back to the scales to the left of the Newsagents. On arrival, weigh yourself and then eat the burger and weigh yourself again. The difference gives you the weight of the burger. You will find that Doug has put on seven pounds, so the weight of the burger is seven pounds.

To find the answer to the first question, which now, in some magical way, suddenly became the last and final question, pop into your hotel and grab your computer before leaving for the park. Walk around until you find a kid on a bench playing one of those handheld consoles. Swap your laptop for his cheap console. Keep checking out the park until you see a street peddler. Talk to him and he tries to sell you a watch, before turning and walking away.

Now go to the Rail Station, and use the cartridge from the console on the cash machine. This overrides the system and gives you 100 Rouble dollars. Back to the bearded guy in the queue. Ask him to buy you some caviar. He'll do so in exchange for a roll of toilet paper. The peddler in the park will sell you this for as little as 100 Rouble dollars. Swap the toilet paper for the caviar, and you should have all you need.



Big Red Adventure

The Colonel's Bequest

For centuries I've been stuck in act 6 of The Colonel's Bequest. I had given up, but due to the lack of new adventure games I decided to sink this low and ask for your help.
Nigel Dawson

What you do is search the wastepaper basket in the bathroom. Examine the bottle with the monocle. See Lillian hiding something in her suitcase. Search Jeeves' and Fifi's body. Thoroughly examine the decanter of cognac. See Clarence writing at his desk.

Spy on Lillian when she's alone; spy on Clarence. Feed a cracker to Polly. Watch Rudy petting Beauregard. In addition to this you need to have completed the following tasks before proceeding to the seventh act: See Lillian hiding her diary in her suitcase. See Clarence writing at his desk. See Rudy outside with Beauregard. Knock at Celie's front door. You can also discover that Jeeves and Fifi have been murdered. If you've done all this and still can't advance to the next level, format your disk.

Foundation Survival Guide

Following last month's Foundation review we've some useful pointers on how to survive at being God.

The best way master Foundation is to study a few the common pitfalls that beginners often fall into. While Foundation owes a lot to previous strategy games there's still a great deal of original gameplay and concepts to master, so it is time to start learning. Ever since the release of Foundation I have been dealing with on-line support where players can email their queries, questions and problems.

The many emails I've received so far have shown a growing pattern of common problems. I've been able to study save-files from numerous games and I've gathered this information to create a guide to avoiding these common traps.

Pace yourself

Aiming to complete a given Mission in the shortest time is something that tempts many players and of course there are times when this kind of urgency is allowable.

Invariably this is not the case, especially for games that require a large amount of work such as destroying more than one enemy or reaching a long-term goal. If such an arduous task lies ahead of you and you approach it with haste, it will all too often result in a quick loss of power and you'll be left incapable of making further headway. Even in the simple Missions I would recommend a certain degree of pondering. You should spend time setting up basic food supplies and allow your population and your power to advance slowly. There's always a fine balance of food, resources, population and power in Foundation and it's all too easy to run short unexpectedly. A wise player will always find important tasks to deal with and will rarely find the need to exploit the game speed options. Increasing the speed will result in an uncontrollable game which is why it is recommended for short-term use only.

Avoid rapid growth

A common oversight that most beginners adopt is that of creating too many buildings too quickly. At the start of the game it's usually a good idea to build three or more basic buildings. These could include a Mine, Farmhouse, Foresters Hut, Pump House, Peasant Hut or a Laboratory. All these are important buildings but it's a good idea to choose a small number of initial buildings based on your basic game strategy. It may be important to advance your Technology swiftly and so a Laboratory would be a good starting building. You may be planning for a long drawn out game in which case the food buildings are a necessity. A final approach could be to start building up your resources for a large settlement in which case a Mine and a Foresters Hut would make an ideal starting point. From this point on it's wise to take some time to consider a slow and steady expansion of further buildings. If this gradual expansion method is not adopted there are a number of situations that could thwart the player. A common problem is the premature loss of building materials which will cause problems when expanding your settlement. Another trap to avoid is that of trading away a plentiful food supply in order to regain your restricted building materials.



▲ **Rapid growth can cause a premature loss of materials and the loss of spare workers.**

Unless this process is carried out with a great deal of care you will usually discover an ongoing decline of supplies. Another popular difficulty encountered during such a rapid building binge is a shortage of Peasants. You will soon observe the number of spare Peasants will drop and suddenly there are no more peasants in the Headquarters and no more workers to attend your new buildings. A good rule to follow is to maintain a level of ten spare Peasants in the Headquarters at all times. The best approach is to refine and optimize a small settlement and add additional buildings only when the current buildings are running smoothly.



▲ **Due to a rapid building program we have run out of spare Peasants in the Headquarters so food distribution will become a problem.**

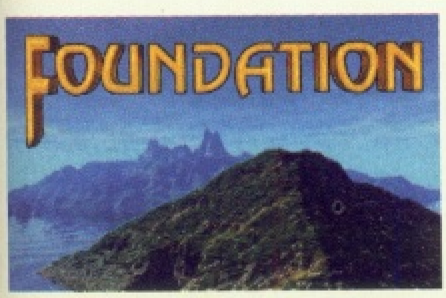
Family planning

All too often there's an urge to expand the size of the settlement to hold a large number of people. The idea is to build a huge army of Peasants and slowly train them to become soldiers. This is of course a good strategy but more often than not it will be doomed. The problem is, people need food and drink. This



▲ A large population will require a great of maintenance and can lead to an inefficient settlement.

must be created in the Farmhouses, Bakeries, Pump Houses and Fisheries. These buildings require workers and a network of distributers who will deliver the large supplies of food and drink. The number of buildings needed to supply all this food will require building materials to create them and supplies to repair them. A simple plan to create a large population will require a large network of buildings to support them. Eventually a problem will occur unless you manage to plan your network of buildings to a high standard. Common problems that may hinder your plans are a shortage of food to feed your people or a shortage of materials to repair the buildings. This will invariably cause havoc and a slow decline is inevitable. It's usually a good idea to maximize your buildings output by supplying the maximum number of workers and it's also a good idea to ensure there's a plentiful supply of spare Peasants in your Headquarters. Training soldiers is also a good idea but there's no point in building a large army of soldiers if they're not going to be used. Keeping a minimal army is much cheaper and it will cause only a small demand on your Food production.



Discharge your goods

Quite often players will notice an unexpected drop in population, the cause of which may not be obvious. Taking a close look at the Headquarters will reveal that food supplies are high so there are no obvious clues there. There may be an abundance of Food in the Headquarters but the surrounding buildings could be out of stock. You'll notice that building workers sometimes deliver goods direct to the nearest place of need. More often it's easier to deliver goods to a stores building (Headquarters) for it to be taken to a further destination by a spare Peasant. This allows the worker Peasant to get back to work while a Peasant in storage can carry the goods to a remote location. When looking for a serious problem you should first ensure that there are enough Peasants in storage to deal with these delivery jobs. The next thing to consider is the frequency of deliveries. An item is removed from a stores building approximately once every three seconds which means the Headquarters can supply twenty items each minute.



▲ The Transport Priority panel can be used to force an early delivery of important goods.

If demand exceeds this rate then your distribution will go askew. The situation can be improved by altering the Transport Priority settings to define the order in which resources are delivered. The Food priorities can be raised above other resources allowing you to force the food out of the building before other supplies such as Gold or Oil. A more cunning option would be to build a second storage building such as a Warehouse or one of the specialized storage buildings such as a Food Store. This will effectively double your distribution rate allowing you to move supplies with greater efficiency.

Sowing your seeds

The positioning of buildings will play a big part in your overall performance. If buildings are not placed in strategic locations you will suffer a reduction in distribution speeds and your Peasants will spend more time delivering goods and less time working. The number of buildings which produce various output resources and require various input resources can make things complicated but there's always room for a little planning. First we will take a close look at a particular group of buildings which produce goods but require no actual input. These are the Farmhouse, Mine, Pump House, Fishery, Masons Hut and Foresters Hut. These buildings work well if they are positioned on the outskirts of your settlement. The resources produced by these buildings can then be transported towards the centre where the serious production work takes place. In the centre of the village you will need to produce plentiful supplies of Gold, Steel, Armour and Magic. The constant input from the surrounding buildings will help produce these important materials. The strategic positioning of buildings will reduce the workload of the Headquarters and provide short paths between each part of the production process which will ultimately provide you with Gold and Armour, the two most important end products.



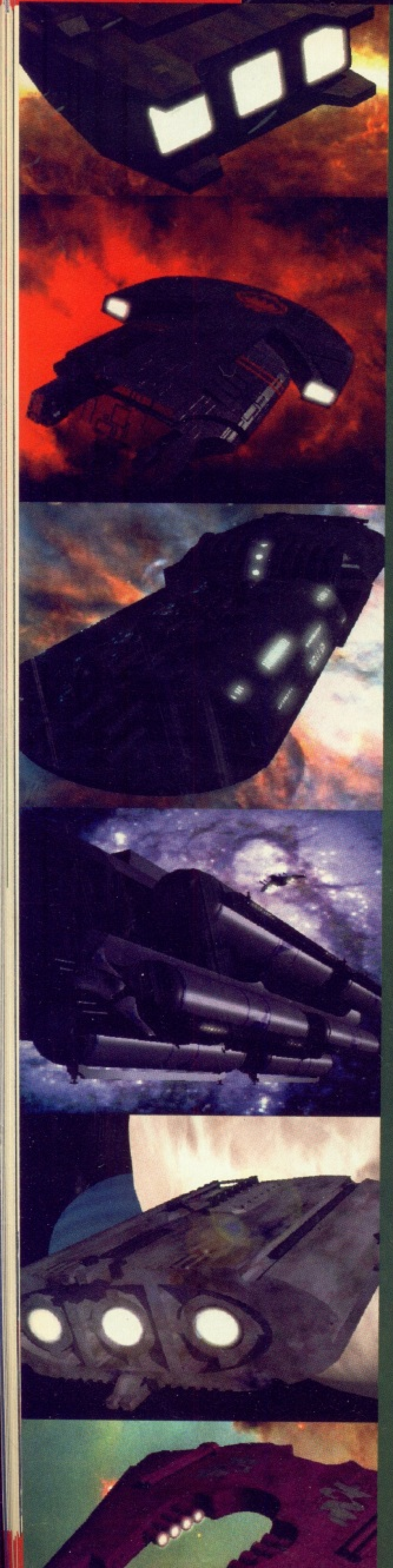
▲ Try to keep at least ten Peasants in the Headquarters to ensure a healthy distribution scheme.

The buildings that produce Water, Fish, Wheat, Fruit and Vegetables will generally be positioned around the outskirts of the settlement feeding their produce into the centre. The Bakery, Brewery and Food Factory buildings all require input resources so it's a good idea to mix these buildings into the core of your settlement. An important use of the Warehouse is to effectively setup a second base with the aim to control a new section of the map. Choose the location of this second base carefully by selecting an area that has good mining potential and a good water supply. When choosing the location for this expansion you should also be considering a strategic passage towards the enemy who will soon become your last step to victory. ■

Paul Burkey



▲ If buildings are located in strategic locations you can achieve an efficient distribution network.



PAR 3

Founding Worlds Explorer 2260 diary

OK, so we've heard all the ideas, but where's the beef? The World Foundry give us a first peek into the nitty gritty of game production.

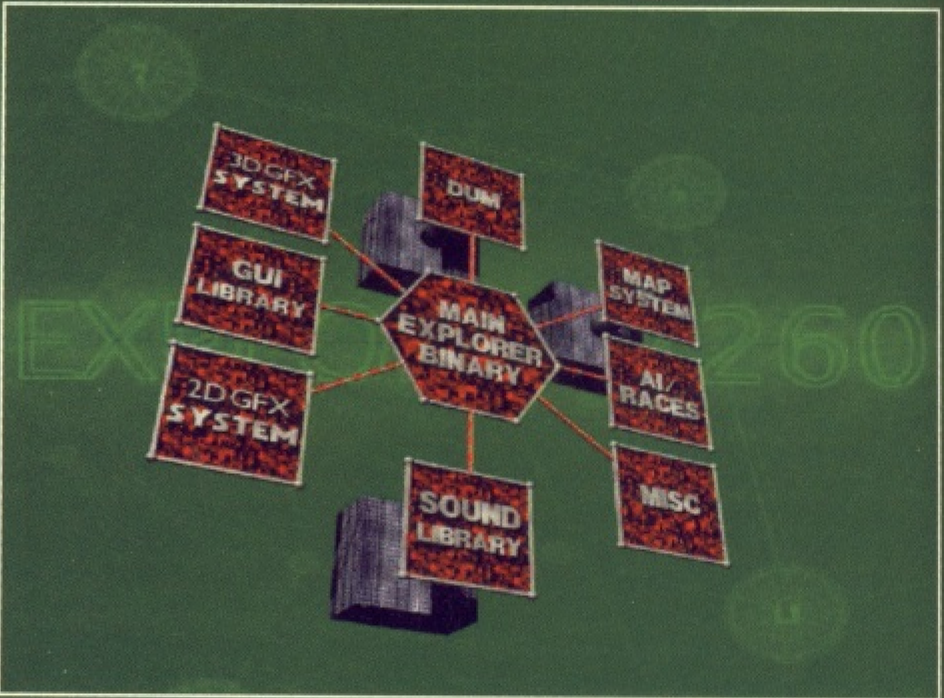
You know all about where Explorer 2260 came from and where it's going, so it's time to take a look at how it's going to get there. Little has been said publicly about the game's implementation or the methods used to create its various objects, planets and systems. This month we'll have a brief look at the way Explorer has been designed to exploit the powerful libraries and multi-tasking abilities of the Amiga and then take a look at some of the programs Explorer gets its data from.

Explorer itself is highly modular in nature. This reflects not only the design behind the game, but also the intention that it may be expandable or improved with greater ease than a monolithic binary. This level of modularity would be difficult without the Amiga's unique shared libraries. The use of libraries means that it is possible to alter the implementation of a part of the game, either to offer speed improvements or extra features, without the need to recompile the whole game. It also makes the design and testing of the game as a whole much easier, as it's possible to code and test each section on its own before integrating everything into the game. A highly simplified view of the structure of Explorer 2260 is shown in the large diagram above right: the individual parts of the diagram are shared libraries. Some of the libraries, like the DUM and the Sound Library, have their own tasks which run in parallel with the main game.

What editors are for...

Explorer is of considerable size and complexity. It requires huge amounts of data to operate correctly: star maps are needed for the navigation systems, 3D models are required for the main engine, player and race characteristics need to be created and stored, even the layout of screens must be defined before the game can operate. To this end Explorer requires several dedicated support programs – editors and data creators. It is also our intention to supply some of these editors with the game, or in a freely distributable package, so that the player can extend selected aspects of the game to enhance its lastability.

Currently, two editors are being developed in parallel with parts of the main game. These are the Object 3D Editor and the Star Map Editor with several more slightly smaller editors to follow. Chris is working on the Object Editor and Ed is developing the Star Map Editor (with a lot of help from Chris). Once these editors are complete they will be made available to many of the people helping out with Explorer – the 'external developers' – so they can create ships, objects and systems to include in the game.

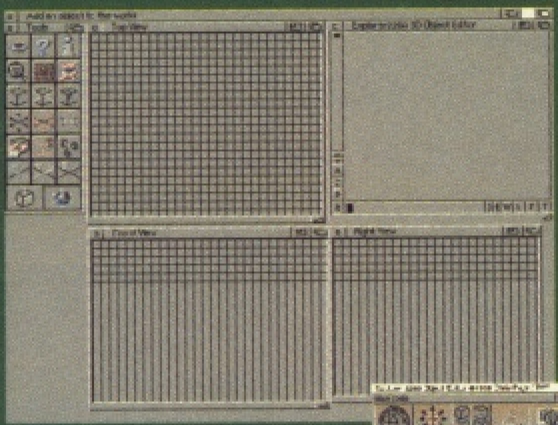


▲ This is how the Explorer 2260 game structure is made up. Simple eh?

The object editor has much in common with Lightwave's Modeler or Imagine's Detail Editor. It has the ubiquitous top, front and side views along with a perspective view and more gadgets and menu options than you can shake a mouse at. Its primary function is the creation of the various ships, weapons, structures and objects found throughout the galaxy. The scope of the editor is so wide that it needs to retain, and indeed add to, many of the features used in commercial 3D modeling and rendering packages. It has the capability to import Imagine or Lightwave objects directly, allow-

ing many of the ships currently used in the construction of the encyclopedia and animations to be loaded, fitted with textures, power lines, weapons pylons and internal structures. This means that the ship pictures seen so far will not be that dissimilar from the ships you will see in the real game. Ed has pestered Chris before to expand it to a full raytracer after Explorer 2260 is finished, although Chris is so far dubious.

The object editor has changed quite considerably in appearance since it's first incarnation. Originally use of MUI was investigated, but special custom classes would need to be written to allows for the 3D display and so was discounted. The alternative of the use of Gadtools was chosen, and work was done on the initial interface. Creation of some shared code to provide popup menus and custom gadgets allowed improvements to be added to the editor.

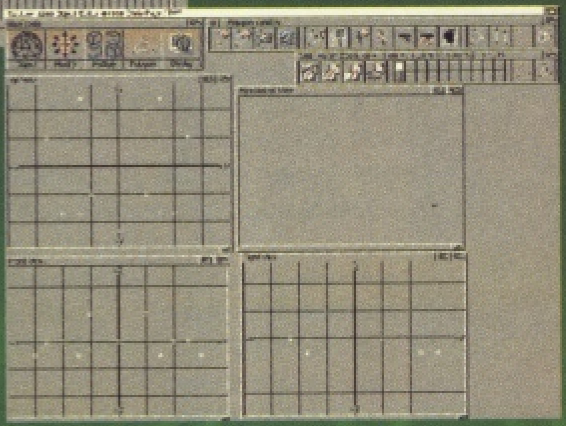


With the interface working well, work went into the programming of the all important points and lines, so that it would be possible to actually create a real object that could be used in the game 3D engine. While not quite at that stage yet, it is possible to partly model a ship and a lot of work is currently being put into facilitating transfer of the models already done to the editor and then the special Explorer 2260 object format for use in the game.

Too many stars

The other major editor as mentioned before is the Star Map Editor. This is a major task for Ed who is a newcomer to Amiga C programming and this is jumping in at the deep end programming-wise for him (The C programming tutorial in CU is helping). With some initial help from main programmer Chris, use was made of his popup menu code (it`s on the aminet for those programmers who are interested) and work progressed on the interface and the displaying of the star maps.

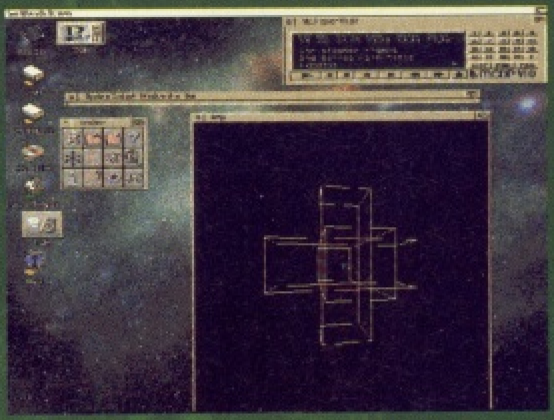
An early snag came when we realised what would happen if a complete star map of the galaxy was included in the game. There would be so much data, there would be not enough room on the CD for anything else, if it would fit on at all! So some fancy calculations were done (by Chris of course) and the whole design of the star representation was reworked so that a reasonable amount of stars and their positions would be defined, but the remainder of the star system would be calculated by a surprisingly simple routine. Without going into details, the systems on a map are calculated by using their sector coordinates, some weights and a couple of random seeds. That was that hurdle over.



▲ Designing and building a universe is no small task.

That was late last year, when Ed then began a new job. At first it was hard for him to find time for his programming, his graphics work and compiling the Encyclopedia, but now fully settled in his job, he is trying his best to get the star map editor finished with threating noises coming from his Explorer 2260 co-developers for encouragement.

Besides these two editors, Explorer 2260 also needs a number of other support programs. Among these are the Character and Race editors, the goods editor and the interface layout editor. The Character and Race editors are so similar that they may end up being a single editor. Anyone who has played any RPG game will be familiar with the concept of a character editor: it defines the characteristics that determine how a character in the game reacts, or the skills that character possesses. The Explorer character editor will do exactly the same thing, except it will be able to define the characteristics of a whole race. The goods editor is used to define the characteristics of objects which will be bought, sold, dug up, manufactured or otherwise floating around in the Explorer galaxy. This includes everything from its size, shape and price to where it can be found, who makes it and when it can be 'discovered' by the game. Finally, the interface layout editor is the most arcane of the editors mentioned here as its sole purpose is to define where gadgets and displays appear on the interface, and what happens when the user interacts with them.



▲ The editors for an important part of the Explorer 2260 system.

We hope this has helped with your understanding of the programming work involved in developing such a complex game as Explorer 2260. Next month lead artist Rob Asumendi will be taking you through the design and development of the many ships that have been shown on these pages from initial sketches to the finished product and discussing the different programs that are used to achieve this.

The Object Editor

- Multi layer operation similar to Lightwave modeler
- Editor can open on any public screen or on its own screen
- Any screen above 640x480x16 colours is supported – including graphics card modes.
- Modeller screen can itself be defined as a public screen.
- Import of Imagine TDDD or Lightwave objects
- Objects can be up to 20km in radius with detail of 1cm
- Texture definition similar to Lightwave Surfaces
- Includes special facilities for placing and defining game information like:
  - Power nodes
  - Ship systems (computers, life support etc)
  - Weapons mounts, both fixed and rotating
  - Damage points
  - internal structures like docking bays, powerplant housings.

The external developers.

Edward Caplen
"I think Explorer will be the best game history has ever seen and I wanted to be a part of it"

Andrew Scorgie:
"The reason I joined the team is because it allowed me to give something back to the Amiga"

Steven Wojciechowski:
"It seemed like the game of my dreams, I had to get involved"

Fredrik Ovaska:
"The development of Explorer is the most open minded process I've ever experienced."

Martijn Sanders:
"From the start the idea and story behind Explorer 2260 appealed to me and I joined the development team. Of course I always wanted to design weird and wacky races and this was my chance."

Vaipen:
"The reason I joined the team is because it allowed me to give something back to the Amiga too"

Chris Korhonen:
"I joined the team because I wanted to be part of something special, and Explorer 2260 *is* something special. I have never seen a game with such complexity and attention to detail."

Andreas Thorn:
"Frontier was my favourite game for quite a while, but there were things about it I would have liked to change. As an external developer of Explorer 2260 I got my chance to contribute to a great game in the same genre."

It's all here in Tech Scene this month, with reviews of Prelude, CrossDOS 7, another new tower and a round-up of the best PD.

Tech Scene

54 EPIC ENCYCLOPEDIA
Dave Stroud in his quest for the fruits of knowledge, discovers more of his beloved Topaz font.

56 CROSSDOS 7
Chris Green has a bash at this long overdue Cross Dos upgrade from Weird Science.

57 PRELUDE
Our fearless leader, Tony Horgan, tries out his audio expertise on this 16-bit sound card.

58 AIRMAIL & WORLD NEWS
Jason Compton, with a grapical email interface bundle from Toysoft Develeopment.

61 EZ-CD WRITER
Richard Drummond tells you why you need this piece of CD-R technology.

62 DEVELOPER CD
All the information a developer could ask for is on this CD – so says Richard Drummond.

63 ATEO TOWER
Interested in joining the Tower club, Andrew Korn looks at one worthy of your attention.

64 EZ VGA
Had enough of them yet? Richard Drummond tests out yet another scan doubler...

64 PD NET
Net-scrumper, Dave Stroud, is on the prowl again for some more succulent swag!

68 PD POST
More PD software, this time not from the Net but on floppy. Richard Drummond provides...

70 ART GALLERY
Andrew 'Picasso' Korn, scopes a few more works of digital art and dishes out the rosettes.

72 USER GROUPS
Get in contact with lots of lovely, fellow Amiga-users (Hi Emerald... you're back in by the way).

Epic Interactive Encyclopedia 1998 Edition

Epic's popular CD-ROM encyclopedia is back with a string of new additions for 1998...

"Superb new updated multimedia interface ... 20,000 subjects ... online help ... hundreds of film clips," reads the blurb on the back of the jewel case. It's almost like they're trying to sell it to you all over again [I think you'll find they are – Ed]. But is the Epic Interactive Encyclopedia all it claims to be?

Before you can get going, you need to use the provided install script to copy a few fonts and program files to your hard disk. These include the main executable, a Setup tool (which although sounding clever only gives you four options – none of which are immediately useful), a guide file and a drawer containing the Creator (which allows you to add your own subjects to the Encyclopedia). The guide is disappointingly brief – it tells you (again) about the Encyclopedia's new features, mentions CDRom filesystems and describes how to use the Encyclopedia over a network. Not a great deal of information there.

On the professional-looking title screen are four big buttons which will take you to the Encyclopedia, the Explorapedia, a slideshow or the credits. The slideshow is just that: a selection of pictures displayed at random over a little piece of music. Nothing special. The Explorapedia does little to warrant its continued inclusion, consisting of several pictures that you click on only to be rewarded with a little animation, some bizarre sound samples and (in Learn as opposed to Play mode) another screen which gives you information about what you just clicked on. Why it's there, taking up valuable room on the CD, is anyone's guess.

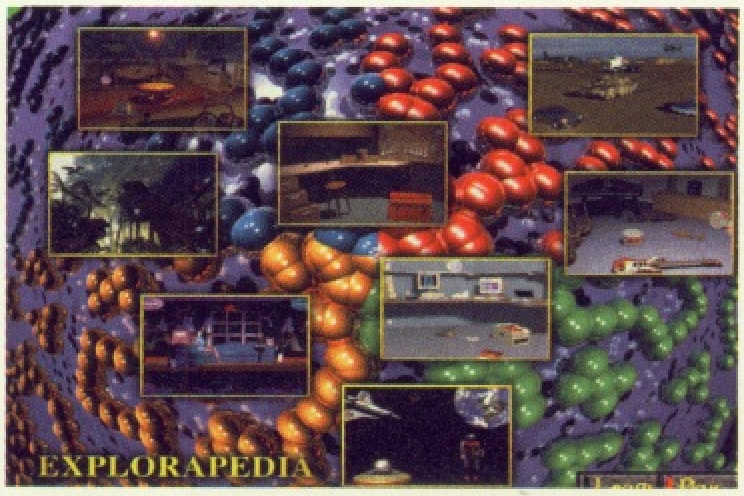
On to the main part of the CD then. The Encyclopedia takes a little while to but once the index has been read from the CD, the city of Aachen, Germany (the first entry in the database) graces you with its presence.

Epic layout?

At first glance, the front-end looks very professional. Top left is the main picture box, underneath which is an indicator of the number of pictures present for the current topic and a panel of icons which light up depending on whether or not the subject contains related sound, pictures, music, animation etc. Below this panel are three large buttons for accessing a hotlist, showing only 'multimedia' subjects and exporting information from the database.

Bottom left is the text box, with buttons for scrolling, zooming and spoken text (using the built-in speech synth). To the right are buttons for the Quick A-Z function, a screen blanker and the search tool. The current subject is displayed beneath these icons, whilst above is a window which displays animations. Finally, in the top right of the screen lies the subject list, along with more buttons for scrolling and adding the current topic to the hotlist.

Whilst it may sound like one giant picnic-basketful of features, Epic have tried to keep the front-end attractive and functional – and at first glance, you might well think they'd managed it. Only they haven't got it quite right. There are no major flaws with the interface – it all works – but it does get annoying when it isn't immediately obvious what some of the buttons do, and even more frustrating when you click on one only to get no apparent response or, worse, a 'busy' pointer for 20 seconds without explanation.

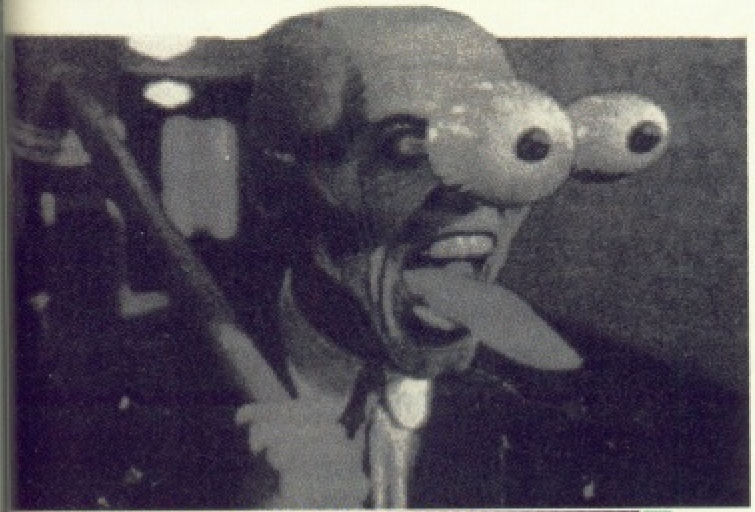


▲ The Explorapedia stays, taking up space that could be better used to expand the amount of sound and animation clips to compliment entries.









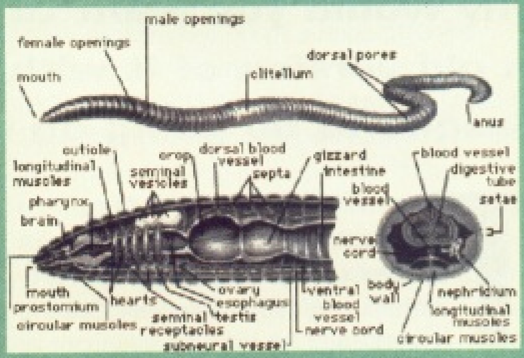


Informative? Inexplicable!

After using the Encyclopedia for a while, it becomes clear that Epic have gone to a lot of trouble making the interface eye-catching, rather than intuitive. Consequently, you don't get a lot of feedback. All the elements are there: the picture window, the text box, a little space for animations, the subject list and a variety of buttons, but they're not ideally sized, positioned or labelled.

The text box is almost tucked away in the bottom right-hand corner. It's too small, and given the kiss of death by the decision to use probably the ugliest fixed-width font in existence: Topaz. Furthermore, textual information is often incorrectly phrased, seemingly un-checked for spelling and grammar, and formatted badly.

Some of the animations are very informative. Others are a complete waste of space (see "Earwig" for a good example). Whilst it is understandable that pictures and animations are difficult to get hold of, it would be much more pleasing to the eye to have at least one related picture for each topic, rather than including pictures for the sake of it (the ray-traced toilet is a prime example).



Intuitive? Infuriating!

There are several elements of the front-end which defy explanation. The picture indicator only has eight bars. This, it turns out, is the limit. The panel of green icons below the picture window only serves as an indicator of the types of media available for the current topic. The intuitive thing to do is to click on these lit-up icons to play the corresponding media – but that doesn't work. Instead, you have to use the four un-marked buttons to the left.

Scroll buttons don't scroll. Oh, wait a minute, yes they do. Take the ones by the subject list; there's four altogether, two for scrolling a page at a time in either direction, and another two which scroll the subject list one line at a time. When the Encyclopedia has first loaded, it takes six clicks on the small 'down' arrow before the subject list finally moves. There isn't a scrollbar for either the subject list or text box. Surely, then, you can hold down the mouse button over one of the scroll gadgets? Er, no.

Apparently, these 'features' of the interface are mostly due to the limitations of CanDo – the language used to write the Encyclopedia's front end. It's a good explanation, but it doesn't serve as an excuse. Perhaps CanDo isn't the right tool for the job, as it evidently Can'tDo some quite basic things.

Tepid Encyclopedia

There are a lot of quirks to The Epic Encyclopedia's front-end, most of which are a direct result of using CanDo to program the interface. In use, you will almost certainly find yourself wondering why a particular picture, animation or sound has been included, and coming up with ideas to improve on what is already there.

Take, for example, the slideshow. Great to leave it running in the corner of the room... nice background music, pretty pictures – but why not have a little panel along the bottom of the screen showing a caption, and a button you can click on to load that topic into the Encyclopedia so you can find out more? It's a missed opportunity.

Epic are at least willing to listen to your ideas and take on board any comments you might have for improving their Encyclopedia. Dealing with so much information is an unenviable task, and Epic have done well to get this far. There's a great deal of raw information on the CD – but it's the static and counter-intuitive interface which lets it down. It's as though Epic have tried too hard to be clever and flash at the same time. It doesn't work.

Having said all that, The Epic Encyclopedia is the only source of such information available on the Amiga today. I'm sorry to say that CanDo doesn't appear able to handle the job, and another overhaul on the interface is sorely needed. But, if you can learn to live with its shortcomings, the Epic Encyclopedia will certainly be able to provide you with a lot of information. ■

David Stroud

Epic Encyclopedia 1998

System requirements: AGA Amiga, 2Mb RAM, CD-Rom drive. (Recommended: AGA, 4Mb RAM, 4x CDRom, Hard drive, 68030 or better)

Ease of use 75%
Hardly any feedback from the interface and a lack of proper instructions.

Performance 70%
It works, but that's about it.

Value for money 75%
Doesn't offer a great deal in terms of useful features.

OVERALL
Plenty of raw information, let down by the quirky interface.
73%

CrossDOS 7

■ Price: £39.99 ■ Supplier: Weird Science ✆ Tel: 0116 246 3800

http://www.weirdscience.co.uk

Why would you want to buy CrossDOS 7 when you have an old version of it with Workbench? Here are a few reasons to be going on with...

The ability to read and write to standard MS-DOS formatted disks is essential today, with the spread of PC compatibles so vast that hardly any Amiga user can live their life without having to use one at some point for school, work, or even at home.

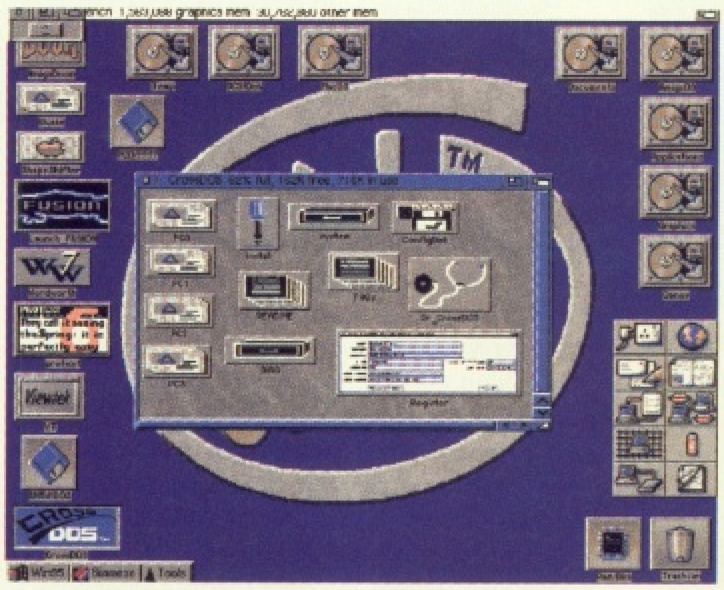
Thankfully Commodore took the decision to add MS-DOS disk compatibility to Workbench 3, with the addition of a small product called CrossDOS. Most users will know this in its smaller form, the two little mount files in your storage drawer called PC0: and PC1:. Basically, CrossDOS is a utility that allows your Amiga to read and write to PC MS-DOS format disks as well as format them in a compatible way.

But CrossDOS is not limited to just floppy disks. With a bit of work, you can format and access hard drives and removable disks such as the Zip and SyQuest in the same way. Sadly, Commodore's demise and the lack of action from Escom meant that this particular feature of Workbench never actually got updated, and even now users upgrading to the newer Workbench 3.1 will still find the same version of CrossDOS as with 3.0, bugs and all! The latest commercial version includes a string of long overdue updates.

Goodbye to 8+3

For all its flaws, Windows 95 did put one thing right on the PC platform, one that Amiga operating systems have enjoyed for years: the use of long filenames. Workbench happily lets you name files using up to 256 characters, including many of the symbols and foreign characters available. Prior to the launch of Windows 95, the ageing MS-DOS file format, which insisted on a file name of no more than 8+3 characters, separated by a full stop and forced into capitals, restricted PC users and was a great pain for anyone copying long-named files onto a PC formatted disk.

So it's not surprising that the main change in CrossDOS 7 is the addition of long filename support, compatible with Windows 95. Again, you can use up to 256 characters, mixed case and 'illegal' characters which the old format did not cater for.



▲ File exchange from PC to Amiga disks is now easier than ever.

This allows for completely seamless copying of long-named files between machines, and is a bonus for anyone using networks like the Siamese System, with shared disks no longer seeing their filenames truncated by CrossDOS.

Operation of CrossDOS is practically transparent. A good installer script copies the new CrossDOS filesystem to your L: directory, overwriting the old one if there, while a new version of the CrossDOS commodity is copied to your Tools: drawer, and that's it!



◀ Version 7 at last introduces support for PC disks formatted with long filenames.

From there, you can set up mount files for your floppies (included with CrossDOS anyway), hard drives and removable drives and access them as transparently as your AmigaDOS devices. Unlike older versions, where you had to write mountlists for these drives yourself, CrossDOS 7 comes with a small program that will automatically generate these lists for your devices.

Using a PC alongside your Amiga has become a way of life for many users, some out of choice, some out of necessity. If you are one of those people, you must have this, if only for the flexibility of long filename support, not to mention a PC format command that doesn't freeze when you try to format an Amiga floppy for the PC. ■

Chris Green

AMIGA MAGAZINE SUPERSTAR

Big disks

Users of removable disks, such as the SyQuest, LS120 and Zip are also better catered for. While the older version of CrossDOS would read, write and format these devices in the PC way, it was prone to crashing in mid-access as well as suffering from data corruption on a frequent basis. These bugs seem to be cured, with my Zip happily bouncing files between my Amiga and a PC formatted disk without a single mishap. Plus, you can even do this to hard drives, particularly good if you are sharing a drive with a PC. CrossDOS is fully compatible with all DD and HD floppy drives, supporting both the 720K and 1.44MB formats. Users of the Catweasel are also supported, but you will need to run the patch supplied with the Catweasel drivers.

CrossDos 7

System Requirements: Workbench 2.0 or higher, 512K RAM. Hard drive recommended.

Ease of use 95%
Simple to install, a detailed manual and automatic mountlist creation make it transparent to the user.

Performance 90%
File copying and formatting is very quick, although you are left waiting at times for the disk to mount.

Value for money 80%
A bit steep for such a small function, but a heavy user of PC format drives will soon see the value of it.

OVERALL A long overdue upgrade! **90%**

Prelude

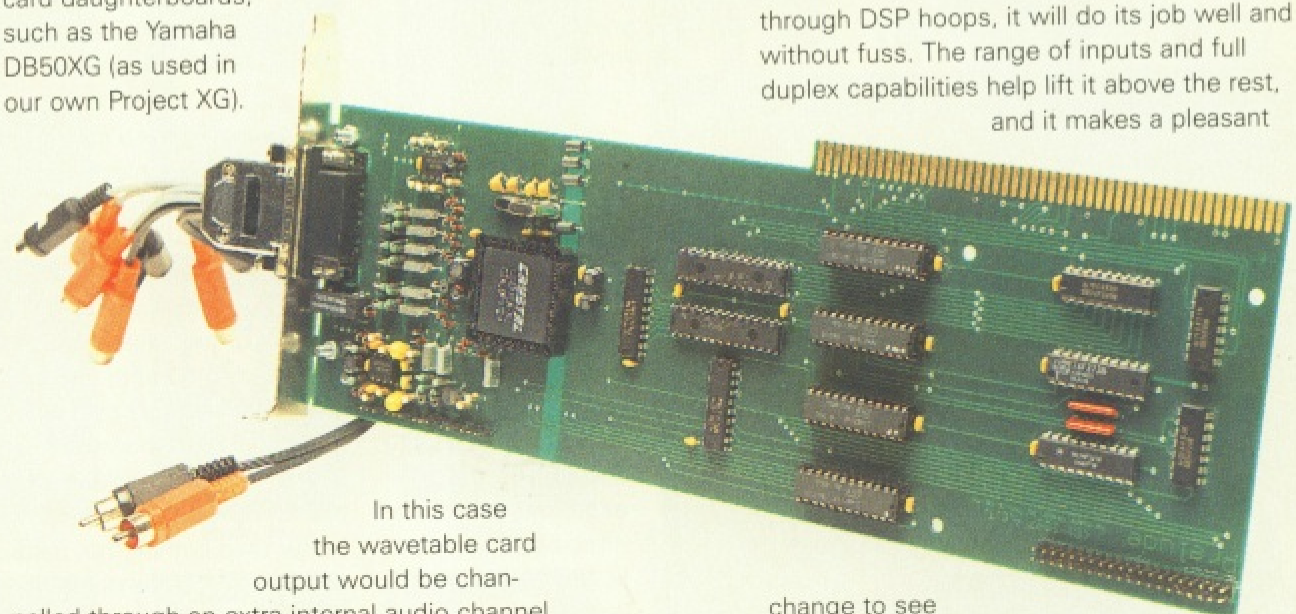
■ **Price: £169.95** ■ **Developer: ACT** ■ **Supplier: Blittersoft**
✆ **01908 261 466** **http://www.blittersoft.com http://www.act-net.com**

Not included in last month's audio round-up, this 16-bit sound card now gets a chance to show us what it's made of.

One way or another, Zorro sound cards have never managed to fulfill their potential, with most managing little more than a straight 16-bit in and out with no practical or useable frills along the way. The fact that most Amiga owners didn't have Zorro slots until recently has held back development and hampered cross fertilisation between hardware and software developers. Many would rather have struggled with whatever parallel or PCMCIA port cludges were on offer than make the move to a Zorro. After all, who wants to buy/re-house a whole computer system just to accomodate a sound card? But short of connecting to the clock port on the A1200 motherboard there's no other option, and if it's true, practical 16-bit sound you want, Zorro is definitely the way to go.

Prelude looks pretty much like every other sound card, but for the audio connections on the back. Unlike most, it doesn't have the connections mounted directly on the back plate. Instead it uses a 15-pin D-plug with a spray of short leads sticking out of the back. This allows you to connect and disconnect various sound sources and outputs without risk of unseating the card from its slot. It also makes it possible for the card to offer three stereo inputs, one mono input and a stereo output in the form of RCA phonos which simply wouldn't fit on the back plate.

What expansion card would be complete without a 'feature connector'? Not Prelude. An interface is planned for this to allow connection of PC sound card daughterboards, such as the Yamaha DB50XG (as used in our own Project XG). In this case the wavetable card output would be channelled through an extra internal audio channel to the main output. It would be nice if you could just plug one of them straight onto the feature connector without going via an additional adaptor. An MPEG layer 2 and 3 audio player is also planned.



What's the alternative?

To be honest, Prelude doesn't really have much stiff competition. Zorro sound cards typically feature audio in and out (perhaps a few ins) and little in between. Delfina is the most interesting alternative with its realtime DSP effects, but sadly there's barely any software support for those features.
Toccata, now difficult to get hold of, is as simple as they come, with three analogue inputs, one output and a 16-bit in, 16-bit out conveyor belt type operation. The long-since discontinued Sunrize AD516 is nice but simple and was always well overpriced. Melody and its A1200 variants look more interesting but aren't yet available.

See the specs

So, let's take a look at the other specs of the card. It's a 'full duplex' card, which means it can record and play 16-bit stereo audio at the same time. It can sample at rates up to 64KHz in 16-bit stereo, including 44.1.KHz. Each of its inputs can be passed through the to main output at various levels with the use of the Mixer software. This is a little tool that acts as a mini mixing desk on your Workbench. You could use this as a very basic mixer to combine other sound sources in realtime (live instruments or MIDI gear for example), and as one of the inputs is designed to loop back to the Paula outputs you could do away with an external mixer altogether – although mixdown options would obviously be very limited in such a setup.

Software bundle

Prelude scores better than most sound cards with its bundled software. The CD comes with SoundFX, a demo of Samplitude, an AHI driver, AudioLab and a collection of smaller tools such as the aforementioned Mixer and Tapedeck, plus Play16. There's also provision for anyone who wants to support the card in their own software by way of some developer's docs.The inclusion of an AHI driver makes it possible to use the card with any software that supports AHI (retargetable audio) output, which includes just about every worthwhile bit of audio software released in the last couple of years. Unfortunately this does not include OctaMED SoundStudio, which has neither an AHI output option (doh!) nor a specific Prelude mode, although this is bound to change with the forthcoming SoundStudio update.

While as with all Amiga sound cards, the price looks shockingly high when compared to technically similar PC sound cards, Prelude is still one of the most affordable and most available sound cards you can choose from. While it won't make your sounds jump through DSP hoops, it will do its job well and without fuss. The range of inputs and full duplex capabilities help lift it above the rest, and it makes a pleasant change to see some hardware turn up with a decent suite of useable software in the box. If I was put on the spot and asked to recommend a sound card right now, Prelude would get the nod.■

Tony Horgan

PRELUDE

System Requirements
Any Zorro-equipped Amiga with OS2 or above

Ease of use **80%**
Handy audio connections. The rest comes down to what software you use with it. AHI compatibility is essential and present

Performance **85%**
Nothing too flash, but does its job well without taking a heavy toll on the CPU. Sound quality is fine

Value for money **81%**
While the hardware alone might seem overpriced, the software bundle helps add value to the package

OVERALL
A solid sound card with good software support
83%

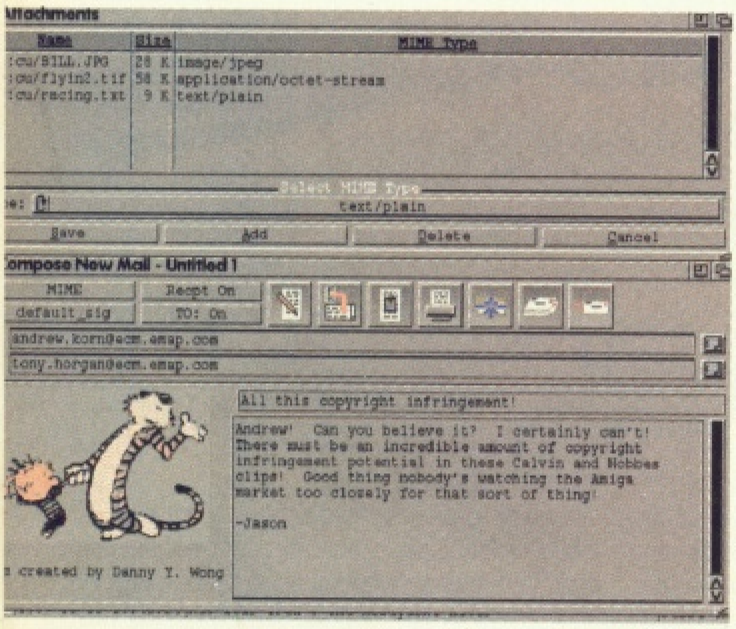
Air Mail Pro 3.1

■ Price: £23(approx) ■ Supplier: Toysoft Dev.

http://www.toysoft-dev.com/

Fancy a new emailer? Air Mail Pro could be just what you're after.

Email is as old as the Internet itself, which in computer terms is as old as the hills. Until powerful GUI machines like the Amiga came along, most emailing was done from text-based clients – some, like Elm and Pine, have evolved to have very clever ASCII menus, but they're text all the same. Air Mail Pro is the latest entry into the relatively newer field of graphical email interfaces.



Sending mail these days is about much more than just getting Words X and Y from Point A to B. On most levels, Air Mail has the game covered. Most of the changes since V2 have been cosmetic, the only major switch being a multithreading mode which allows you to compose, send, and receive mail all at once – a very powerful and welcome feature.

Air Mail's built-in handling of multiple encoding types has been expanded to include BinHex (Macintosh binary-to-text) decoding. The included PGP support makes it that much easier to take advantage of privacy measures, and the extensive preferences (through MUI, although other versions are available) are a welcome sight. Other changes include the ability to have the old SPEAK: device read your mail to you. I recommend against testing this unless you have some time on your hands... once it gets started, it's hard to shut it up. There is an experimental "spam" filter, but I, personally, don't trust my computer to decide what's worth reading. Without configurability, this option is not very useful.

Air Mail continues to be a solid performer. If it has any glaring problems, it's that it's starting to suffer from "creeping featurism" and the online documentation is woefully behind the changes in the program. Because there's so much you can do, just sending a lone piece of email can be challenging the first time out. Now that the core program is quite stable, a few more dummy requesters (i.e., those that come up when you've done something the program considers dumb) should be a priority for the programmer.

Once you get the hang of Air Mail, it's well worth appreciating. ■

Jason Compton

AIR MAIL PRO 3.1

System Requirements: 4 meg RAM, WB 2.1

Ease of use 81%
Tough learning curve in the early stages.

Performance 90%
A powerful and efficient mail client.

Value for money 84%
Good value if email is important to you.

OVERALL
Well worth a look if you fancy a change of mailer
86%

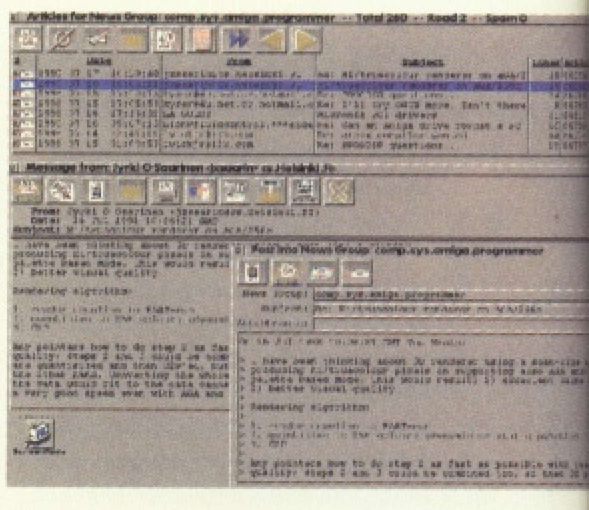
World News

■ Price: £20 (approx) – Bundle: £37 (approx)

■ Supplier: Toysoft Dev.

Or how about a dedicated newsreader?

It's a real dilemma. Your ISP has massive, expensive, powerful computers whose sole reason for existing is to process Usenet news, email, WWW requests, and so forth. Why shouldn't you just use as many of their resources as you can when going about your Net activity? If you use your ISP's built-in clients – Unix software like Elm for mail, Tin for news, etc. you can save yourself a lot of download time since you only download what you read – not what you might consider reading – and use up absolutely no drive space.



But perhaps for convenience, or privacy, or because your ISP is one of the growing number which does not offer Unix shell access, you want and need your own mail and news clients. If you have AWeb-II, you can use its built-in news client, which is better than nothing but certainly sub-optimal. World News provides a standalone solution which if nothing else is better than giving up newsgroups altogether. The interface is, not surprisingly, quite similar to Air Mail's, so if you familiarise yourself with one, the other will be a snap. World News forces you to organise a user profile of newsgroups – you can simply be lazy and put all of the groups you might ever want to read into one category, or try to break them down by subject, or set up a "lots of time to read news" vs. a "only a few minutes to read news" priority group, and so on. A number of common interest profiles are included.

I was a little surprised at how comfortable I found World News. Attachment decoding and saving was reasonably smooth, and certainly a sight better than struggling with keyboard commands. The built-in editor is snappy (and yes, it word-wraps correctly at 75 or however many characters you specify in preferences, even though you may not be working in a screen window as long as the output is intended to be). On the down side, as a newer product it is still a bit rough around the edges – certain requesters do not scale properly with fonts, for example. On the whole, though, it's easier to get up and running with World News than with Air Mail, largely because you don't have to worry about trashing your important stored email: you can't accidentally delete news from your ISP.

Despite its promises, however, you should consider if you really need or want an external newsreader. Running a Unix client on your ISP gives you much quicker access. But, if you've decided to take the plunge, World News is solid enough to consider. ■

Jason Compton

WORLD NEWS

System Requirements: 4 meg RAM, WB 2.1

Ease of use 83%
Basically, straightforward operation.

Performance 80%
Does an adequate job as a newsreader.

Value for money 74%
Unless you really need a standalone newsreader, it's not a bargain.

OVERALL
A worthy newsreader if you want a separate tool for the job
80%



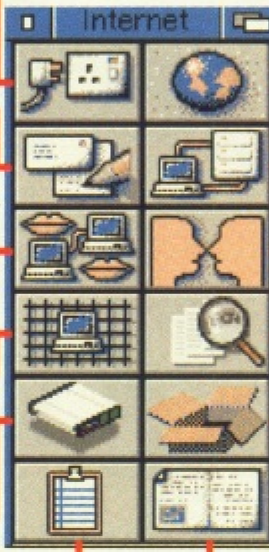
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MICRODOT-II
A superb combined email and newsreader within one GUI! Contains all the major features you would expect - MIME attachments, support for POP3/APOP, search function, multiple signatures, multiple user support, Arexx port etc.

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AMTELNET
Telnet into remote computers (from anywhere in the world) - edit files on a computer in Germany from your Amiga, maintain directories for your web pages, check the status of the network, play online games.

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AmTerm is a communications package which allows you to connect to a BBS, to another user (direct link), transfer files via a serial connection.

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Central management of web sites, ftp servers, chat channels, friends/users. You can store a range of information which is accessible from Voyager, MD-2, AmIRC, STFax Pro.

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Voted the best Amiga web browser by CU Amiga - supports SSL for securing ordering, HTTP 1.1 (for the fastest web access) fastmem AGA support (use fast mem to store images), built-in FTP and news support and much more.

AMFTP
AmFTP is the ultimate Amiga FTP client. Download/upload programs from any FTP site, also supports ADT to allow you to download the latest files from the Aminet and Archie to search FTP sites for files.

AMTALK
A direct chat client for the Amiga. Acts as an online answerphone service for people to leave messages. You can talk directly 'realtime' to friends on the Internet.

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NetInfo is a cool tool for analysing the network and the people connected to it - 'finger' your friends to see if they are online, 'ping' servers to find the response speed.

X-ARC
X-Arc is the Amiga's answer to WinZIP™ - automatically decode/encode LHA/LZX/ZIP files, edit the contents of these archives, create your own archives.

DOCUMENTATION

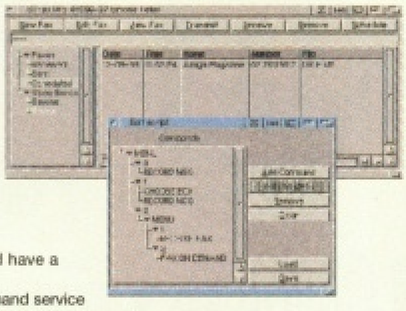
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stfax professional (new version 3.3) — £29.95

STFax Professional is new commercial fax and voice mail program which enables you to use your Amiga as a digital answer machine, send and receive faxes from most Amiga programs and setup a mini-BBS. Ever wondered who companies manage to create their voice based operator system? You can do this at home! 'Press one to leave a message for Mike or press two to leave a message for Sue'. STFax is also ideal for the small business owner: setup a fax on demand service (so customers can receive information about your products 24 hours a day), advanced message box system for the employee's, log callers via caller-ID, control other programs etc. New v3.3 offers you even more powerful voice features, including:

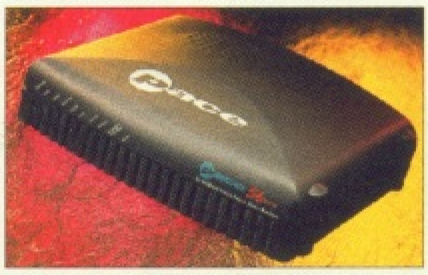


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  - **Reports** - quickly see when a fax was sent and received
  - **Printer Driver** - redirect all print-outs to a fax file (print from Wordworth, Pagestream, Final Writer, a text editor etc!)
  - **Fax Viewer** - view outgoing/incoming fax messages
  - **Fax Forward** - forward faxes to another machine
- **Advanced Voice Features:**
  - **Advanced Digital Answer Machine** - unlimited storage space
  - **Multiple-User** - assign voiceboxes to individual users. A family could have a voicebox per member and receive their own voice messages.
  - **Advanced Voice Scripting** - create your own voice network/fax on demand service
  - **Use the Modem as a Telephone** - make and receive calls via STFax Pro and your modem
  - **Remote Access** - listen to your messages from an external source. ie. from another phone or even country!
  - **Caller-ID** - see who is calling you (number and name of caller), choose to intercept the call or allow STFax to auto-answer, see who has left a message and 'reply' to the caller via the modem, attach a personal greeting to a specific phone number and only that person hears the message.
  - **External Program Control** - start an arexx script when an incoming call is detected or when the caller has hungup and control other programs. A music player could pause for an incoming call and then continue when call has ended.
  - **Call Screening** - blacklist phone numbers. Sick of sales people calling after 6pm? Nuisance callers? Blacklist their numbers (you can even blacklist 'withheld', 'unavailable' and 'international' numbers) so STFax either ignores their call or simply plays a custom greeting "sorry, this household does not welcome cold sale calls"! You can also set priorities per caller - STFax notices an important caller, it plays a warning sound.
  - **Call Scripts** - setup scripts to perform an action on an incoming call, eg. pause your music software until the call is ended.
- **Independent Operation Mode (new in v3.3!):**
  - Modem works independently from Amiga to store faxes or voice messages. Download new messages or faxes to STFax Pro and then view/play/manage them within the software.
  - Software fully supports the Independent Operation mode of the PACE 'Solo' you can upload a greeting to the modem, setup a remote retieval password, arrange the unique 'follow me' feature (modem contacts you by mobile phone when you have messages) and switches the independent mode on and off (on exit). 3-Com 'Message Plus' modem is also supported (but this modem has far more limited features than the 'Solo' and no UK Caller ID support).

high quality modems — from..£69.95

Choose from three high-quality **branded** modems - the top of the range, award winning PACE 56K, the new PACE 'Solo' 56K or the middle of the range Dynalink modem. Both come with a five year warranty. The PACE modem also ships with free lifetime technical support, UK caller ID (only modem available which supports this), a superb speakerphone, conferencing feature, volume slider, easy to understand LED's and non-technical, easy to read documentation. The PACE is currently the best 56K modem you can buy, virtually winning every single modem roundup in the PC, Internet and Mac press. All PACE 56K modems are now v90 shipping ready - the agreed standard for 56K connectivity. Why not treat yourself to the brand new PACE 'Solo'? The 'Solo' be used standalone from your Amiga. Want to go on holiday but need to receive fax and voice messages, but don't want to leave your Amiga running? The 'Solo' is the answer.

PACE External 56K Modem



- Quality branded PACE 56 voice modem
- v90 ready (new 56K standard)
- 5 year warranty, life time free technical support
- 56000 bps DATA/FAX/VOICE modem - true v34+ Throughput to 115,200 (230,400 for internal) BPS
- Group 3, Class 1 send/receive FAX (14.4)
- V.80 (video conferencing) capable
- Call Discrimination
- UK Caller ID (unique to PACE modems)
- 10 LED's for full status monitoring
- Analogue Simultaneous voice and data (A.S.V.D.)
- Speakerphone for hands-free operation
- Mute button for secrecy
- Upgradable ROM chip
- On/Off switch to rear of unit
- Volume slider for speakerphone control
- Includes headphones/microphones - voice control
- Serial cable included (with 9 & 25pin connectors)

PACE 'Solo' 56K Modem



The PACE 'Solo' 56K modem replaces your existing fax, answermachine and modem. It can work independently from your Amiga (so you can turn your computer off to receive messages, if you prefer). It contains the features listed to the left and adds:

- Full specification fax/voice answer machine with message replay, time stamping, remote retrieval of messages all operational in stand-alone mode.
- Stored messages accompanied by time, date and caller-id where applicable.
- Stores any combination of approximately 30 minutes of speech or 30 pages of faxes.
- 'Follow Me' allows the 'Solo' to notify your mobile phone when you receive new messages!
- Group 3, Class 1 and Class 2 FAX (14.4)
- 2 sockets for flash memory expansion modules.
- Memory expansion options upto 32Mbits.
- 5 backlit function keys, 11 function keys

Dynalink 33.6K External Voice/Fax/Data Modem	£69.95
Dynalink 56K External Voice/Fax/Data Modem	£89.95
PACE 56K External Voice/Fax/Data Modem	£129.95
PACE 'Solo' 56K External Voice/Fax/Data Modem	£189.95

PACE 'Solo' requires STFax Professional v3.3 for the Independent Operation Mode features

modem pack options — from..£79.95

Various money saving packs are available. These are all based on the Dynalink 56K modem. Packs based on the 33.6K or PACE 56K or PACE 'Solo' 56K modem available.

Code	Pack Contents	£ Prices
PK01	56K Modem & STFax	£ 99.95
PK02	56K Modem & NetConnect	£119.95
PK03	56K Modem & NetConnect & STFax	£129.95
PK04	56K Modem & NetConnect & Hypercom1 & STFax	£164.95
PK05	56K Modem & NetConnect & Hypercom3Z & STFax	£189.95

DEDUCT £20 for a Dynalink 33.6K Modem (instead of the Dynalink 56K)
ADD £40 for a PACE 56K Modem (instead of the Dynalink 56K)
ADD £100 for a PACE 'Solo' 56K Modem (instead of the Dynalink 56K)

- All packs come with one month free connection to Demon Internet and/or UK Online
- Choose between the CD or Floppy disk version of NetConnect with your modem pack

high speed serial cards (new models!) — from..£44.95

The *Hypercom* range of high-speed serial cards offer your Amiga the fastest connection to the Internet, for comms and fax transfers. Available for the Amiga 1200, A1200 Towers and Zorro-II/III based machines (Zorro version suitable for A1500/2/3/4000 or a A1200 tower).

Model	Machine	Specifications	Price
Hypercom1	A1200	1 x 460,800bps highspeed buffered serial port	£39.95
Hypercom3	A1200T	2 x 460,800bps highspeed buffered serial, 1 x 500K bytes/sec parallel port	£79.95
Hypercom3Z	Zorro-2/3	2 x 460,800bps highspeed buffered serial, 1 x 500K bytes/sec parallel port	£74.95
Hypercom4	Zorro-2/3	4 x 460,800bps highspeed buffered serial ports	£89.95

miscellaneous software

Various other individual software titles are available. These titles may be interesting to those not wanting to purchase NetConnect v2.

	By Disk	By EMail
Miami - TCP/IP Stack for the Amiga	£28.00	£26.00
Scalos - superb new MUI based workbench replacement!	£18.00	£16.00
Voyager Next Generation	£22.00	£20.00
Microdot-II	£20.00	£18.00
AmIRC	£20.00	£18.00
AmFTP	£20.00	£18.00
AmTalk	£17.00	£15.00
X-Arc	£16.00	£14.00
Contact Manager	£12.00	£10.00
AmTelnet + AmTerm Package Deal	£20.00	£18.00

- *5% Discount when 2-4 Vapor products are bought, 10% Discount for 5+*

internet informer/extra information

Still unsure about connecting to the Internet? Want more information? Confused by all the acronyms such as 'ISDN'? Confused about the costs? Ask for our free information pack!

ACTIVE

Oval House, 113 Victoria Road, Darlington, DL1 5JH

Tel : 01325 460116
Fax: 01325 460117
E-Mail: sales@active-net.co.uk
http://www.active-net.co.uk

DELIVERY CHARGES

S'Ware	- £0.50 for UK delivery - £1.00 for EU delivery - £1.50 World delivery
H'Ware	- £4 for 2-3 day delivery - £6 for next day delivery - £call for Saturday delivery

Make cheques/P.O.'s payable to Active Technologies and send to the address listed opposite. We can accept credit or debit card orders. For any additional information call us!

EZ-Writer

■ Price: from £249.95 ■ Supplier: Eyetech

✆ +44 (0)16242 2713185 http://www.eyetech.co.uk

If you thought that CD-R technology was exclusively in the province of SCSI, then think again. Here's Eyetech's low-cost ATAPI EZ-Writer.

Like all Eyetech's products the EZ-Writer comes in a variety of flavours to suit your particular system. The model on test here is the £299.95 external version, which comes supplied in a sturdy steel SCSI-type case with an internal PSU. All versions ship with the excellent MakeCD 3.2 software. The drive mechanism used in the EZ-Writer is the Mitsumi CR-2801TE, a standard half-height, 5.25" size drive with claimed transfer rates of 8x for reading and 2x for writing.

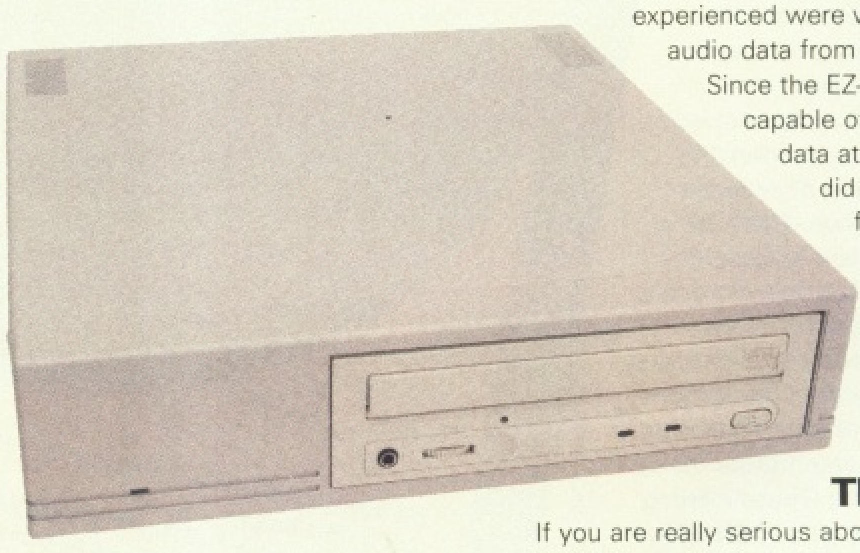
What's it for?

What do you need a CD-Recordable drive for, then? Well, its a cheap, reliable and long-life form of mass storage. CD-R disks cannot be erased once written, and they will not degrade with time like magnetic media do. Obvious uses include the following.

Backups:	**CD-R discs are a cheap, permanent and convenient way of backing-up your hard drive contents. Forget mucking about with scores of floppies.**
Archiving:	**Create libraries of easily accessible software and data. Ideal for images, clip-art, sound samples, or whatever. It also has the benefit of portability - CD-R discs may be read in any CD-ROM drive.**
Audio recording:	**Make your own CDDA discs to be used with any old CD player. A cheap way to distribute your own music or great for making custom CDs of your favourite tracks.**

CD writing and IDE

The critical issue with CD-R drives is that when writing they have to be continuously fed with data. To ensure an even flow of data CD-R drives are equipped with an internal buffer; the CD writing software will maintain another buffer. If a so-called buffer underrun occurs - that is, the data flow is interrupted for some reason – then the disc being written to is spoiled.



The Amiga's IDE interface is not an ideal way to connect a CD-writer. The Amiga's phlegmatic IDE implementation supports only the programmed I/O mode. Consequently, the CPU has to be used to transfer data from memory to a device or vice versa. A powerful processor is needed to maintain a decent throughput, especially when transferring data between drives. There is also the problem that if two IDE devices share a single channel (one being master, the other slave) then they are both restricted to the speed of the slower device.

The EZ-Writer is best used with a 4-way IDE splitter. Then you may have the source drives (perhaps your hard drive and CD-ROM drive) connected to channel one, say, and the CD-R drive to channel two. With such a setup the source and destination drives can operate independently and you would be less likely encounter a buffer under-run. To enable the use of the second channel on the 4-way interface you must have the full version of IDE-Fix or similar (Eyetech's complete EZ-IDE interface and software may be purchased with the EZ-Writer at a reduced price of £30.)

The proof is in the writing?

The EZ-Writer is simple to install (especially if you already have a 4-way adaptor fitted) and the supplied MakeCD software straightforward to configure. MakeCD is a powerful package and yet easy enough for novices to use. The in-built context-sensitive help is a big plus.

The package supports writing of standard CD audio, data tracks and multi-session discs. The two common methods for burning CDs are track-at-once (TAO) and disk-at-once (DAO). In TAO recording each track is sent separately to the CD writer with an inevitable pause between each track. DAO recording overcomes this limitation and also allows greater control over the format of the disc. The EZ-Writer can handle only TAO recording.

In tests the EZ-Writer performed satisfactorily. The Mitsumi mechanism used has a poor reputation for reliability, but I encountered no real problems with it. With an 060 processor this package effortlessly wrote CDs from images files, from disc to disc and even on the fly. The only difficulties I experienced were with copying audio data from disc to disc. Since the EZ-Writer is quite capable of writing audio data at double speed – it did so from image files – I assume this was due to the rather old and battered CD-ROM drive I was copying from.

The verdict

If you are really serious about CD-R, then a SCSI drive will offer better performance. However, the EZ-Writer is easy to use and is the lowest priced CD-R system for the Amiga. If one were to shop around, perhaps the drive could be bought more cheaply from a PC vendor; but then you could get no Amiga-specific technical support. ■

Richard Drummond

EZ-Writer

System Requirements: Any Amiga, WB3.0+ and an IDE interface. (040 processor & 16MB recommended)

Ease of use 91%
Simple to install, configure and use.

Performance 82%
Adequate, but doesn't impress.

Value for money 85%
A good but not exceptional price.

OVERALL
Good entry level CD-R system **87%**

Amiga Developer CD V1.2

■ Price: TBA ■ Available from: Weird Science ✆ Tel: 0116 246 3800

It's got more information than the Yellow Pages... and it's slightly more readable too.

AMIGA MAGAZINE SUPERSTAR

When this new Developer CD landed on my desk, I was surprised. What is the point of updating the documentation for an operating system that is no longer being developed? I thought. Of course, this CD is licensed by Amiga International; they seem to have a separate agenda from their bosses in the US, Amiga Inc.

What's here?

The official line is that this CD contains all the material needed to develop software for the Amiga. This is not quite true: it does not include a compiler, the actual business end of software creation. No problem. There are a number of excellent development environments available in the public domain. But as capable as these freely-distributable systems are, they suffer one crucial lack: the includes and link libraries, the files that instruct your compiler how to handle OS calls and data structures. These missing components form part of the Native Development Kit (NDK) – which can be found here.

The Developer CD features the latest update of the NDK. As well as all the necessary bits and bobs to fuel your compiler, the Autodocs also comprise part of the NDK. The Autodocs – so called because they are machine created from the source code of the OS – detail the parameters, results and usage of all the OS functions. They are supplied in AmigaGuide format, which is handy for hot help use from your favourite text editor (For example, you may configure an editor to call up the documentation of a highlighted OS call in your program's source).

This CD contains a whole host more than just the NDK, though. There are tutorials and example code; documentation on standard tools like AmigaGuide and the Installer; details and tools for Localization; information on the IFF file format; various tools for debugging; object and source code manipulation; the Sanall, Envoy and INet network kits; extra documentation and example code on OS3.0 features like BOOPSI and datatypes...



And there's more

So far all that I have discussed was available on the previous Developer CD. The big, new additions to this one are AmigaGuide versions of the official Amiga Technical Reference Manuals and the inclusion of the WarpOS and PowerUp packages.

The Reference Manuals are a huge bonus. These three books – Libraries, Devices and Hardware – were formerly published by Addison-Wesley and comprise the bible to programming the Amiga. Since Commodore's demise, they have been harder to find than a decent pint of beer in London. It would have been nice to have them in a format better suited to hard copy, though.

The addition of the PPC development material is a positive move. While these kits are likely to become stale quickly – both PPC kernels are still at an inchoate stage – this could be interpreted as a real advocation of the PowerPC by Amiga International.

What's missing

Despite the huge quantity of data on this Developer CD, there is definite room for improvement. One glaring omission is a search tool. The contents of the CD may be browsed via Multiview: most of the documents are in AG format and there are plenty of links and cross-references; the CD has indices by subject and alphabetical order, too. But because of the deeply-nested hierarchical structure, it is time consuming to locate a desired piece of information. Perhaps a move to HTML in the future might be a good idea. As far as content is concerned, the major shortcoming is the lack of material concerning AmigaDOS. To be fair, this has always been the case. The gap here is perhaps a further symptom of the schism between DOS and the rest of the OS; or maybe it is because the AmigaDOS manual was published separately by Bantam Press and Amiga have been unable to regain copyright. I also would have liked there to be more third-party development material included. Much Amiga software these days makes use of facilities such as MUI, CyberGraphics, AHI, etc.; documentation and examples on these would have been valuable.

The judgement

Regardless of its faults and omissions the Developer CD is a vital resource for anyone serious about writing software for the Amiga. Although it is not a vast improvement on the previous release, it deserves a Superstar medal merely for the inclusion of the Reference Manuals. Buy it. ■

Richard Drummond

New for V1.2

- **The Amiga Technical Reference Manuals (3rd Ed) in AmigaGuide format**
- **The PowerUp software and developer package from phase 5**
- **The WarpOS software and developer package from Haage & Partner**
- **A snapshot of all current files from Amiga International's ftp server**
- **The Amiga Mail articles (volumes 1 and 2)**
- **The DevCon disks from 1988 to 1993**

WORLD NEWS

OVERALL

A must for all propellerheads **90%**

Ateo A4000 Tower

■ **Price: £159** ■ **Developer: Ateo Concepts**
■ **Supplier: White Knight Technology © +44 (0)1920 822321**

Jealous A4000 desktop owners breathe a sigh of relief, now you too can join the tower revolution.

It's definitely the zeitgeist for Amiga owners. After years of struggling along with those pokey little desktop cases, hanging seven types of god-knows-what from the fragile plastic case, A1200 owners have been sawing and soldering their way to computer heaven. Big power supplies, plenty of drive space, room to breath - there are plenty more reasons for A1200 tower conversion than adding Zorro slots.

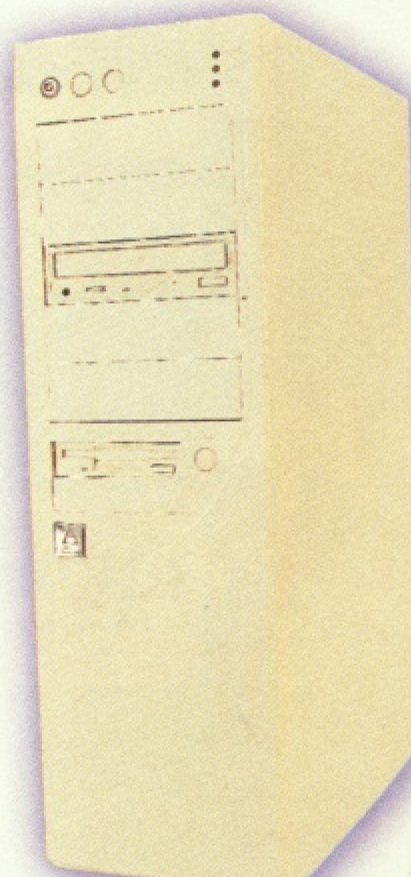
A4000 owners have always been blessed in the Zorro department. On the other hand they have been cursed by a less than spacious desktop case. It's bad enough that there is only room for one 5.25" device, but the abnormally small space allocated in the 5.25" bay leaves many A40000 desktop owners with a CD-ROM drive sticking an inch out the front of their cases.

Standing tall

We've had a fair few requests from people who want to tower up their A4000 desktops, but until now the only option has been the Micronik solution.

Micronik solved the Zorro mounting problem (the A4000 Zorro daughterboard stands at a right angle to the motherboard, fine if your motherboard is horizontal but a problem when mounted vertically in a tower) by replacing the daughterboard with a seven slot one that has a right angle connector allowing it to sit parallel to the motherboard. It's a good solution, but pushed the price too far for most people's taste, especially as most people find four slots sufficient. Ateo's solution, in the best tradition of money saving Amiga hardware hacking, is to just let them hang.

Once the A4000 motherboard is in place, the blanking plate carrier for the Zorro cards in the back of the desktop case is removed, rotated ninety degrees, and put into a precut receiving slot in the tower case. The original Zorro daughterboard is then put back in and the supporting top bar screwed into the blanking plate carrier at the back and a custom fitted right angle bracket at the front. Sure, the Zorro slots point downwards now, but at least it is cheap and does the trick!



Upside-down screws

A point to watch is that you are now dangling your cards and they need to be well supported. Zorro slots tend to have a decent grip, but the blanking plate screws should certainly be fitted. Unfortunately they point down and are pretty hard to access with about a 5cm clearance between the bottom of the blanking plate carrier and the tower base. There are some air holes in the floor of the case in about the right place, and personally I'm tempted to hack these out for easy access to the screws, but a right angle screwdriver will do at a pinch.



Easy assembly

A4000s are a lot easier for tower conversion than A1200s. They have an AT form factor motherboard which screws into place where a PC motherboard would, and require much less messing about with IDE interfaces, keyboard adapters and so on. Once your A4000 desktop is stripped down and the motherboard removed (a few screws, a couple of hex nuts) it is a matter of minutes to fit it to the Ateo case. The rear panel of the tower has well machined cut outs for the ports, plus a couple extra for the mouse/joystick ports which normally poke out the side of the desktop case, a problem Ateo solve with a pair of extension leads.

The whole lot is screwed into place and the Zorro daughterboard added as previously described. The power supply is already adapted for an A4000 desktop style connector. Drives are fitted as normal for a tower, and off you go. It couldn't really be much easier. There are a few minor points I don't like about this case, but nothing terribly important. The positioning of the blanking plate screws, the lack of dedicated port labelling (you can use the stick on sheet from your desktop, but it'll look a bit rough), the shortage of power connectors on the PSU (easily alleviated by buying doubler cables which cost about a pound each). The quality of the case itself is adequate rather than good, too.

However, you do get six 5.25" bays and four 3.5" bays, and the whole thing runs plenty cooler than a stuffed desktop. It isn't spectacularly cheap given there is nothing complex like the keyboard interfaces that A1200 towers require, but for something as easy as this it's a very fair price, and there has clearly been plenty of thought put into the design by people who actually pay attention to things like proper electrical isolation.

This is one of those products which does exactly what you want it to do without any major fuss or difficulty. It may not be going to set the world alight, but if you want more space in your A4000, what are you waiting for? ■

Andrew Korn

ATEO A4000 TOWER

System Requirements
Amiga 4000, common tools

Ease of use 92%
Simple to construct but Zorros are a little fiddley

Performance 90%
Plenty of space, decent build

Value for money 85%
DIY would be cheaper but a lot more hassle

OVERALL
A good piece of kit that opens the world of tower conversion to A4000 owners

89%

EZ-VGA Mk2/Plus

■ **Price: £74.95 (external), £119.95 (external with flicker fixer)**

■ **Supplier: Eyetech ✆ +44 (0)16242 2713185 http://www.eyetech.co.uk**

Scan doublers, scan doublers everywhere... and all the monitors did work? (Well, maybe.)

At the risk of repeating myself, a scan doubler is a device which promotes the horizontal scan frequency of the Amiga's native video display modes (PAL and NTSC) to make them viewable on a standard PC VGA monitor. A flicker fixer, in addition, cures the annoying flickering caused by the interlaced video modes.



There is a wealth of option now in the Amiga scan doubler market. In the June issue of CU we tried out Micronik's devices, while in August we gave Power's entries a whirl. Here we take a look at some new scan doublers from Eyetech. And, typically for Eyetech, they've found a novel way to market their EZ-VGA Mk2 range.

More compatibility?

The EZ-VGA Mk2 operates in a different manner from the other scan doublers. Instead of using an external oscillator and usurping your Amiga's genlock circuitry to promote the video scan frequency, the EZ-VGA employs a phase-locked loop (PLL) to do the job.

The consequence of this different approach is wider applicability: the EZ-VGA will work with all Amigas, ECS and AGA, PAL and NTSC. Eyetech claim also that it functions more compatibly with any hardware add-ons you may have grafted to your Amiga. They say that, by externally clocking your machine, other scan doublers may cause timing conflicts with some hardware expansion such as accelerators. This argument sounds plausible. However, I am not personally aware of any instances in which it is valid.

More control?

The EZ-VGA is a four-inch-long, flat box, one end of which plugs into the RGB socket of your Amiga. The monitor then plugs into a standard 15-pin VGA socket on the other end. In size and shape the EZ-VGA resembles one of those old TV modulators that were shipped with the A500. It exhibits a similar design flaw, too. Since it plugs directly into the back of your Amiga – not via a flexible cable like Micronik's external device – it requires, say, six inches of clearance behind your machine. Not such a problem for desktop or tower-cased systems, perhaps, but a real nuisance for consoles like the A1200. The EZ-VGA's plug and go installation is worlds easier than any of the internal devices – but with one caveat. There is a small potentiometer on the rear of the box which is used to adjust the video signal produced by the device. The EZ-VGA is supposedly shipped with this optimally preset for the vast majority of Amigas – but it may require some fine tuning. This is a simple enough procedure, however.

Like all the scan doublers we have reviewed, the EZ-VGA – once installed – operates transparently. The picture quality produced is equally as good as that of any of the other devices, too. The flicker-fixing version copes admirably with interlaced video modes: static images are rock steady, while moving images are subject to a slight flicker. This is a feature of the way the interlaced display is made up and the way the de-interlacing works. It is certainly bearable and a lot less noticeable than with Power's flicker fixer.

More value?

The decision of whether you wish to buy an EZ-VGA rather than a rival device is not a straightforward one. It depends, perhaps, on whether you believe Eyetech's hard sell or have experienced problems with any other scan doubler. The fact remains, however, that despite its higher price the EZ-VGA's broad compatibility and upgradeability mean it is a worthy contender. ■

Richard Drummond

The optional flicker fixer

The EZ-VGA comes in two versions: one without and one with a built-in de-interlacer. However, if you are undecided whether to opt for the more expensive flicker-fixing device or perhaps if you cannot afford it just now – then don't worry. You can buy the cheaper version and upgrade it with a de-interlacer at a later date. This is a simple matter of opening up the device, plugging in a field-RAM chip and setting an internal jumper. Easy.

EZ-VGA Mk2/Plus

System Requirements: Any Amiga

Ease of use 90%
Very nearly plug and play.

Performance 91%
Excellent display quality. The flicker fixer is especially impressive.

Value for money 87%
More expensive than similar devices – but upgradeable.

OVERALL
A quality scan doubler – that dares to be different.
89%

PD.net

Dipping his virtual ice cream scoop into the digital freezer cabinet, Dave Stroud comes serves up some more Internet PD desserts.

Deconstruction

Download of the month

Type: Game
From: Aminet: game/demo/DC_Demo.lha
Size: 826k
Requirements: AGA, Hard Drive



Aieeeee! It's another Breakout clone. Ah, but wait a moment, it looks like a pretty good one. In fact, it looks like a very good one, but if I was to tell you that Deconstruction was a Breakout clone written in Amos, a lot of you would probably drop your copies of CU Amiga and run for the hills.

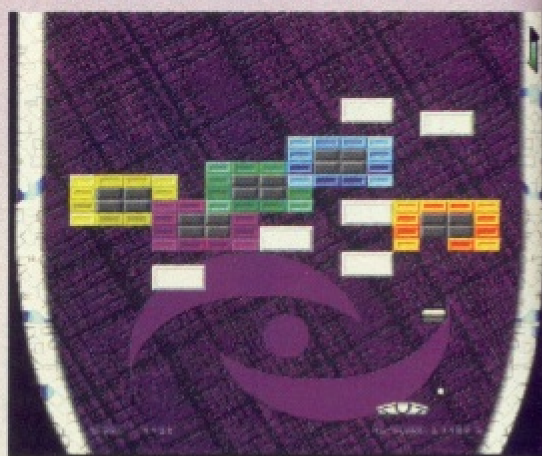
Breakout clones and Amos aren't usually a good mix, but Deconstruction refuses to join the mass of poorly-coded alternatives and provides frenzied gameplaying action with a sleek interface and eye-catching graphics.

This playable demo of the full game – which is available From over the channel in France for a £16 registration fee – also includes a demo demo. You know the sort of thing – an advert, if you will, for the full version.

Choosing to view this demo provides you with some more information about the full game, like the fact that it includes 200 levels, 45 bonuses, 277 bricks and 6 raytraced, animated bosses. In a Breakout clone? Apparently so.

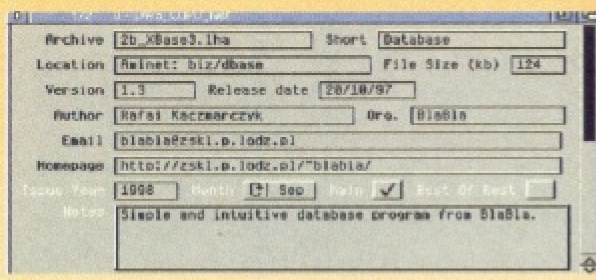
Once you've seen the demo demo, the playable demo lives up to expectations, as you whizz your metallic bat backwards and forwards and experience some quite lovely animated effects like spinning triangles and diamonds as well as the more traditional falling tokens which change your bat or ball in one way or another.

This is one of the best Breakout clones I've ever seen – it has eye-catching graphics, great sound, excellent gameplay and is presented beautifully. And if that doesn't convince you to play a game, I don't know what will. Perhaps if I give it top marks... ★★★★★



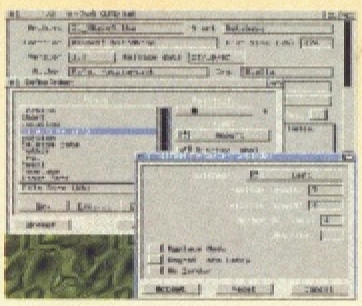
XBase 1.3

Type: Database
From: Aminet: biz/dbase/XBase3.lha
Size: 124k
Requirements: OS 3.0+, 0.5Mb RAM



Looking through Aminet for an attractive, intuitive, user-configurable database program can be tricky. XBase 1.3 brought an end to my search, and for good reason. It's all of these things.

It doesn't use that love-it-or-hate-it user interface extension, but it remains clear-cut and user-friendly. It's got all the features you might want to see in a simple database program: A font-sensitive GUI, plenty of keyboard shortcuts, full localisation, saving and loading of ASCII files, a wildcard-supported search function, etcetera.

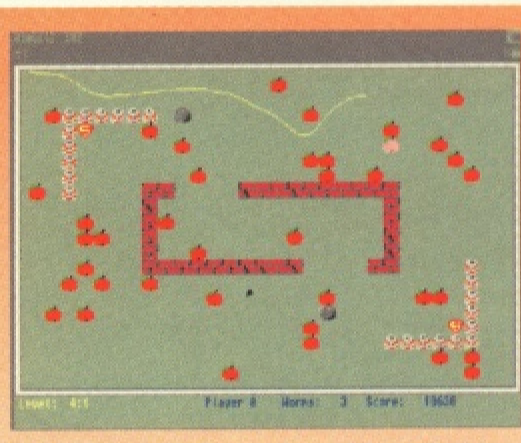


Above all, you can design your own database to meet your own needs. Don't want a "Fax:" field? Then don't put one in! Want a database consisting of just a string gadget and a checkbox? Fine! Go ahead. Not a problem. Seeing as you start with an empty window, the design and content of your database is only restricted by your needs, which is a *good thing*. Alright, so you can't have pictures, sounds or bouncy, spinny mpeg animations of the USS Enterprise included in your database, but that's not what XBase is about.

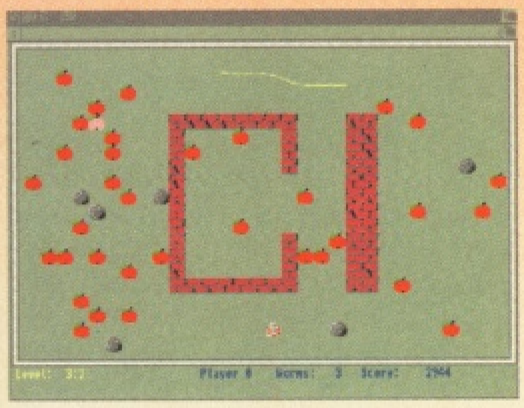
I don't need to explain how to use this program, because it's a doddle. You'd probably only find it difficult if you were wearing a straight-jacket or didn't have a head. What more is there to say? If you want a no-frills but user-friendly database program that lets you be the boss, get XBase 1.3. ★★★★★

Wriggle v2

Type: Game
From: Aminet: game/misc/Wriggle.lha
Size: 25k
Requirements: OS 2.0+



Controlling a worm with a mouse might sound like something you would report to the RSPCA, but in this case, Jesper Wilhelmsson can be forgiven. Tired of the standard worm games that only allow you to turn in 90-degree steps using the cursor keys, Jesper has decided that a mouse can do the job better, and in some ways, he's right.



At first, trying to control the speed and direction of your worm in this manner usually results in it careering out of control as you fling your mouse left and right, wishing it would learn to judge for itself.

It doesn't take long to master the finer points of control, and you'll soon find yourself paying attention to collecting apples, diamonds and rubies and avoiding bricks, rocks and stones. Why? Well, because eating all the apples will complete a level, for that is all your worm wants to do in life, and who are we to argue?

Although it's possible to play in a window on your Workbench screen, it's perhaps not the best idea, although it is fun trying to access a particular drawer on your hard disk whilst simultaneously steering your worm in the right direction – something which could almost be an entirely new game in itself!

Despite being a worm game, Wriggle could just be different enough to catch your interest for a short while, and this version comes with a level editor, which can only add to its longevity. ★★★★

FBlit 2.45a

Type: Graphics Util
From: Aminet: util/boot/FBlit.lha
Size: 117k
Requirements: '020+, Fast RAM

Chip RAM. There, did you just shudder? Then get your hands on FBlit by Stephen Brookes. Despite being "experimental, incomplete and fundamentally dangerous," FBlit does wonders for Workbench backdrop patterns and Web Browsers' displayed graphics by steering them away From the default, limited Chip memory.

It does this by patching OS functions that normally use the Amiga's blitter to display graphics, forcing them to use the CPU. If you have a nice zippy processor, redrawing these graphics is also sped up – the faster the CPU, the quicker the redraw!

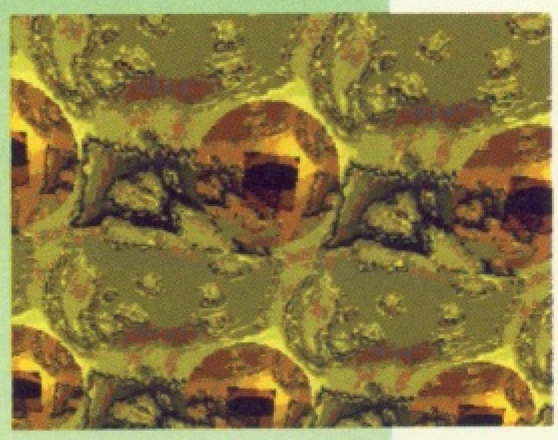
Versions of Voyager, IBrowse and AWeb can all be forced to use Fast RAM for images, although the latest versions of IBrowse and Voyager can be set up to do this already. The speed of viewing and scrolling around large graphics with Multiview is also improved, as is the redraw on Workbench and window backdrop patterns.

Although software which patches the same functions as FBlit can cause conflicts (such as MCX and MCP), I've been using it here alongside the latter of these two commodities with no problems, and doubtless many other users of FBlit are more than satisfied with the benefits it offers.

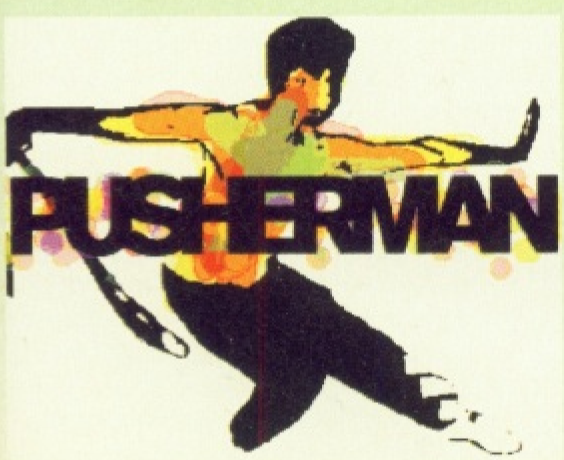
In short, if you've not got a graphics card, and you are running Workbench in more than two colours, you should be finding out what FBlit can do for you. You might just be surprised. I know that I certainly was. ★★★★

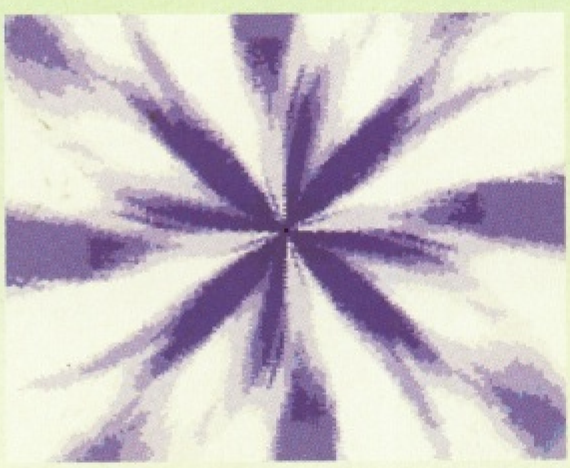
Pusherman

Type: Demo
From:
Aminet:demo/aga/Tlu-Pusherman.lha
Size: 1MB
Requirements: AGA



A nice combination of arty 2D sketches and abstract 3D visuals are synced precisely with a slow-fast drum & bass soundtrack on Pusherman, one of the more stylish but still technically impressive demos to have appeared lately. The multilayer mesh of circles (above) is one of the best bits which sucks you into what looks like one of those microscopic close-up shots you get of dirty clothes in washing powder ads. ★★★







PD.post

Richard Drummond has a load more Public Domain games and utilities, available on floppy disk...

Cross Country

Type: Platform game
From: Underground PD, 54 Carmania Close, Shoeburyness, Essex SS3 9YZ
Tel: 01702 295887
Price: £3.00 (2 disks)

DISK of the month

The plot for this game – involving a clown, a princess, a bomb and a fox without a tail – is perhaps a bit silly. But who cares? Cross Country is a top-down running and jumping game in which you play the fox (I suppose the object is to rescue the princess, but I wasn't really paying attention). Anyway, the game features five scrolling levels of avoiding bad-guys and jumping over obstacles. Doesn't sound much, does it? Well, you'd be surprised.

Cross Country has colourful, cartoon-style graphics. Each level is sufficiently different in content and character from the others to be interesting. There are lots of nice touches, too. The cute sound effects, for example, when you fall into the water or thud into an obstacle. On the second level – called Lost Bridge – if you miss a jump, you go plummeting through the clouds to your death and splat onto the ground below.



The author, Labriet Daniel, has clearly put a lot of effort into this game. There are a few minor flaws – the scrolling is not perfect and the collision detection is a bit iffy – but on the whole it has been well executed.

Cross Country is fast and fun and slightly unusual. It is refreshing to see a PD game that is not just another Arkanoid or R-Type clone. The fact that it is freeware is an added bonus. ★★★★

BeatBox2

Type: Music application
From: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 2SH
Tel: 0161 723 1638
Price: £1 plus 75p P&P per order



BeatBox is aimed at the budding Amiga musician who doesn't wish to deal with the complexities of a tracker program; it is touted as a completely point-and-click music editing package.

BeatBox employs a similar metaphor to the tracker type of program, but the interface is realised in a completely different manner. Instead of having to mess about with hex codes and the like, you assign icons to each of your instruments. You can then place icons on the screen in a desired sequence to make a musical phrase or block, which you can then identify with a name. Building a tune then consists of arranging these named blocks in order. Simple, huh?

The simplicity of the interface does allow the easy creation of music, but options and controls are rather limited. It is in no way designed as competition for a tracker. I suspect that the first-time computer user or the very young would benefit greatly from this package. The supplied guide file will be very helpful to the beginner, too, and contains clearly annotated screenshots.

I have a few complaints with the package. I found that with the point-and-click method used the correction of mistakes is difficult. Secondly, BeatBox's screen handling is rather odd: it claims to be able to open up on a Cybergraphics screen, but whatever size CGX screen I chose, it would only open one of 320 by 240 (I ended up having to force the display mode with MCP's screen manager).

Lastly, the program is shipped with no example tunes and only one sound sample for you to experiment with. I accept that there are an abundance of samples elsewhere, but the inclusion of some samples would have made it a more complete package. BeatBox is shareware and has a registration fee of £5 in the UK. It is a worthy tool for the musical novice. ★★★

501

Type: Game

From: Underground PD, 54 Carmania Close, Shoeburyness, Essex SS3 9YZ

Tel: 01702 295887

Price: £1.50

People say football is the UK's national sport. They are wrong: it's darts. Honestly. There must be some telling defect in the British character that we lead the world in pub games. Darts, snooker, dominoes...

Anyway, 501 is an attempt to bring that great game of skill to your computer screen. For those of you who remember the Commodore 64, 501 is obviously influenced by that Mastertronic classic, 180. It has a similar look, the same delirium tremor control method, contains sampled speech and humorously-drawn computer opponents for you to face.

This game was written in AMOS by Eric Park and he has done a creditable job. The presentation is excellent. There are a few flaws: for example, the soundtrack is discordantly awful and the sampled speech has a disconcertingly American accent. But the game does boast loads of features, including one or two player games, practice and tournament games, and a clock game. Unfortunately, the gameplay is a bit tedious. I don't think anybody will have the patience to actually complete a tournament (competing against a fellow human is a lot more fun). And, while I appreciate that it is difficult to translate a game such as darts to a computer, the wobbly-hand method of control is frankly annoying.



I personally dislike darts – I go to pubs to drink and talk to people. But if you disagree and would like to hone your flechette-lobbing technique on your Amiga, then 501 is the game for you. ★★★★

Classic HD Utils #31

Type: Utility collection

From: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 2SH

Tel: 0161 723 1638

Price: £1 plus 75p P&P per order (Sigh!)

Yet another HD Utils disk. The content of these disks is definitely declining as this series progresses and the title is becoming increasingly a misnomer. But, anyway – what does the thirty-first edition have to offer?

My favourite program on the disk is called Head2. Do you remember those hacks that were trendy a few years ago, the ones that would draw a pair of eyes on your Workbench screen to follow the movements of your mouse pointer? Well this is similar, except it renders a 3D head. Great fun, but utterly pointless.

ArtecScan is the main package of note on the disk. It is a driver package for the Artec A6000C and AT3 scanners (but may work with other SCSI scanners). ArtecScan is shareware with a fee of $30. This may seem expensive, but this is quite a professional package. It has lots of controls: 24-bit colour and 8-bit gray modes; colour filters; gamma, brightness and contrast correction, etc. The only real limitation is that at the moment it only supports PGM and PPM file formats.

The remaining software in this collection is rather unremarkable: DTypeGuide provides help and software to ensure your system has all the latest datatypes installed; GuruLog is a tool which keeps a log of system failures; Lha2lzx is a utility for converting between archive formats; and MaxMenu is another start-bar cloneThis disk is worthwhile only if you wish to try out the ArtecScan software. The rest of us should give it a miss. ★★★



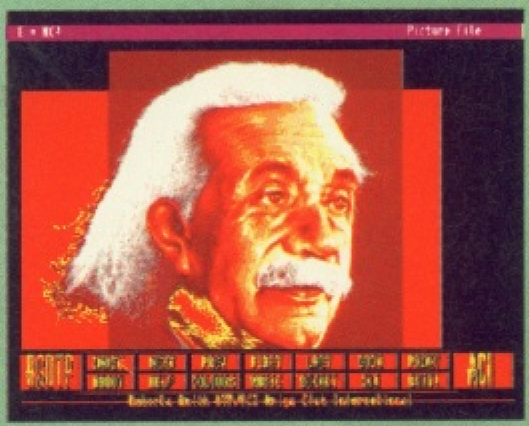
ACI Club Disk July/August 1998

Type: Disk magazine

From: Roberta Smith DTP, 190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE

Tel: 0181 455 1626 .

Price: 90p + 50p P&P (free to members of ACI)



The ACI Club Disk is one of two disks sent every two months to members of the Amiga Club International (for membership details contact the above address). Although free to members, other Amiga users may like to purchase a copy.

The DMC system was used to create this disk. For those unfamiliar with this system, in use it functions like a colourful version of Multiview: it provides gadgets to browse backwards and forwards, page-by-page through an article, and to navigate up and down through the magazine structure. DMC is not too system friendly: it does allow you to switch back and forth to your desktop, but it opens only on a PAL screen. The resolution of PAL is too poor to make text easy to read and the size of allowable screen display limits design choices for a page. I think that disk magazine creators would do better to publish their work as HTML pages. But I suppose this idea is dependent upon their readers possessing HTML browsers and machines capable enough to run them.

This magazine acts as a newsletter for the ACI. As such it contains some material orientated towards the club. There are lists of disks available to members, and members can post messages to be displayed to each other or sell they're unwanted hardware and software. The rest of the content is a mixture of Amiga-related articles. There are host of different hardware projects, a review of CrossDos 7, tips and FAQs, a collection of artwork, jokes, etc. Nothing stands out, though – either by being good or bad.

The ACI Club Disk has been competently, if not exciting done. There is bound to be something here to interest the average Amigan. And if it is being shoved through your letter box for free, who can complain? ★★★

Art Gallery



1

See your work in print... and win a print, too!

Each month we will declare one picture in the Art Gallery to be Picture of the Month – and if it is yours, we will send you a print of your work, output to an ultra high quality IRIS printer on glossy paper (that's around 25-30 quid from a print shop to you, guv'). You will never see your work looking so good! If you want to enter a picture into Art Gallery, either email it to artgal@cu-amiga.co.uk or post in on disk to our normal address, marking the envelope Art Gallery. We recommend PNG format as it saves a lot of disk space, but alternatively GIF or IFF is fine. JPEG drops image quality so avoid that where possible – also never use JPEG for images with 256 or fewer colours.



2



3



4



5

1. Melt by Jason Mitchell
This unusually high resolution image was done in Imagine 4.0. The mirror ball is a cliché and the composition a bit simplistically symmetrical but the colours are nicely balanced and the Jupiter backdrop works very well. The smooth tonality and detail is a product of the large number of pixels that make up this picture. At just under 1.5 million pixels, it is nearly five times the size of the average PAL resolution picture that gets sent in to Art Gallery.

There is no reason not to render your work at as high a resolution as you can get away with, until you reach the limit of display resolution – for example, a picture this size in CU Amiga gets printed at about a four million pixel limit.

2. Abduction by Robbin Van Ooy
This is a Lightwave render with post processing in Photogenics and PPaint. Robbin was inspired by the sudden replacement of the old green phone booths in his native Netherlands by uglier newer ones. He believes the old ones were abducted by jealous aliens. Robbin does a good job of spotting the flaws in the picture – it is overexposed, the windows are equally lit and the lights on the UFO are a little weak.

Oddly the moon took 32768 out of 57136 polygons in the scene. If he had used a bitmap, he could have cut down the number of polygons in the scene by well over half and it would look better. The best solution to the UFO problem is a tricky but rewarding one – make a lot of holes in the surface, and put a bright light source inside it. Similar tricks can be applied to the windows.

3. The Guardian against Defectors by Peter Sullivan
Peter Pro Grabbed an oil painting he did a couple of years ago and tweaked it in Personal Paint. The idea is fun, and the artwork fine, but a combination of some imperfect scanning and the reduction to 256 colours that using PPaint entails has taken its toll on the image quality.

4. Sunny by Raymond Zachariasse
Raymond's latest is a bit of a tribute to Eric Schwartz, an attempt to come up with a character along the lines of Schwarz's Amy. It looks a little like he lost concentration after the head though – the face is pretty good, but the body leaves something to be desired.

It's a bit counter intuitive, but with cartoon work of this type, a good understanding of anatomy is very important. There's no room to go into detail here – and unless I get flooded by requests I'm not going to do a Digital Art tutorial on furry female cartoons – but try to think about the skeletal and the bodily structures (calm down!) of your character a bit more. Schwarz is good at drawing cartoon animals because he knows what real people really look like.

5. Plastic by Sapie (Gunnar Alvheim)
Here's a very nicely executed Lightwave 5.2 abstract. Clean, simple, well done. Looks a bit like a poster for a new age cult, but I think we can forgive Gunnar for that! I'd like to see a few more facets in the crystal for contrast, but that's about all I can think of to say!

User Groups

Let our international user group directory put you in contact with like-minded Amiga users in your local area. To add a new group to the list, fill in the form on the opposite page.

■ Alpha Software
Location: Newcastle, UK
Contact: Gareth Murfin
Email: gazy@globalnet.co.uk
✆ 01670 715454
WWW: www.users.globalnet.co.uk/~gazy/
Meeting times: 8 - 9pm.
Places: IRC #AmIRC GalaxyNet
Address: Gareth Murfin.113, Cateran Way, Collingwood Grange. Cramlington Northumberland. NE23 6EZ. UK.

■ Amiga Christchurch Inc.
Location: Christchurch NewZealand
Contact: Annette Leonardo
✆ +64 03 3390232
Meeting times: 2nd Tues of month, 1900
Places: Shirley Community Centre, Shirley Rd.
Address: ACI. PO Box 35-107, Christchurch, NZ

■ Amiga Club Genk (ACG)
Location: Genk, Belgium
Contact: Bart Vanhaeren
Email: amiga.club.genk@skynet.be
WWW: http://users.skynet.be/amiga/acg
Meeting times: 1st Sunday of month
Places: Cultural Centre of Genk, meeting room 1
Address: Weg Naar Zwartberg 248 B-3660 Opglabbeek, Belgium

■ Amiga Computer Enthusiasts of Elkhart, Indiana
Location: Northern Indiana, USA
Contact: Gregory Donner
✆ (219) 875-8593 (after 5pm)
WWW: www.cyberlinkinc.com/gdonner/ace.htm
Meeting times: 2nd Saturday of month
Places: 26728 Hampton Woods Dr., Elkhart, IN 46514
Address: 60300 Pembrook Lane, Elkhart, IN 46517-9167. USA

■ Amiga Computer Group
Location: Umeå, Sweden
Contact: Martin Sahlén
✆ +46-(0)90-24816 (24 hrs)
WWW: http://www.amiga-cg.se
Meeting times: Tuesdays 19:00
Places: Kafé Station, Umeå
Address: Skolgatan 14, SE-903 22 UMEÅ. Sweden

■ Amiga Falcons
Location: Malmo, Sweden
Contact: Carl-Johan Rudnert
✆ +46 40 932212
WWW: http://www.algonet.se/~mcisaac/amiga
Address: CJ Rudnert, Veberodsgatan 9, SE-212 28 Malmo SWEDEN

■ Amiga Forever!
Location: Hampshire
Contact: Stuart Keith
✆ 01703 861842 all day
Meeting times/places: TBA
Address: 101 Ewell Way, Totton, Southampton, Hants S040 3PQ

■ Amiga Service
Location: Charleroi, Belgium
Contact: Hoet Raphael
✆ 003271 458 244 (9am-6pm)
Meeting times/places: TBA
Address: Rue Du Nord 93, 6180 Courcelles, Belgium

■ Amigart
Location: Istanbul
Contact: Guvenc KAPLAN
✆ 00902163020915
WWW: http://www.medyatext.com.tr/amigart
Meeting times: Two a month
Places: Anywhere
Address: Ortabahar sok. No:1 Hayat apt. d:2, 81080 Goztepe-Istanbul. Turkey

■ Amiga User Group of Western Australia
Location: Perth, Western Australia
Contact: Arthur Rutland
✆ 08 93641717
Meeting times: 2nd Tues of month, 1900
Places: Curtin University
Address: 31 Chaffers St, Morley Western Australia, 6062

■ AmigaTCS
Location: Columbia Missouri
Contact: Terry Booher
✆ (573) 817 2948
Meeting times: 7pm, 2nd tues of month
Places: TBA
Address: 115 West Phyllis Avenue Columbia MO, 65202. USA

■ Amiga World Special Interest Group
Location: Athens, Greece
Contact: Menis Malaxianakis
✆ 301 - 9026910/9012019
WWW: http://www.compulink.gr/amiga
Meeting times: 1700, Saturdays
Places: Athens
Address: Menis Malaxianakis, Giannitson 11str. 17234, Dafni Athens. Greece

■ Amipack
Location: World Wide – An Amateur Radio Amiga Group
Contact: Paul Carson
Email: DJKus@CarsonJ.clara.net
Meeting times: TBA
Places: On the Amateur Radio Packet Network.
Address: 10 Belgravia Avenue, Bangor, Co.Down, N.Ireland. BT19 6XA

■ AmyTech Amiga Users Group
Location: Dayton Area, Ohio. USA
Contact: John Feigleson
✆ (937)667-9541 After 6pm EST
WWW:www.coax.net/people/erics/Amitech.htm
Meeting time: 3rd Sat of month, 13:30
Places: Huber Heights Library
Address: AmyTech, P.O. Box 292684 Kettering, OH. 45429-0684

■ Ayrshire Amiga Society
Location: Irvine, Ayrshire, Scotland
Contact: Maitland or Dale
✆ 01292 267959 or 01294 275535
Meeting times: Wednesdays
Places: Annick Community Centre, Irvine.
Address: 49 Belmont Road, Ayr Scotland. KA7 2PE

■ Backwoods BBS
Location: Inverness, North Scotland
Contact: Lewis Mackenzie
✆ +44 (0)1463 871676, 24 Hrs
WWW: http://www2.prestel.co.uk/backwoods/

■ Bodmin Amiga Users Klub (bauk)
Location: East Cornwall
Contact: Nick
Meeting times/places: Bodmin or Pelynt (To be arranged)
Address: Croft Cottage, Jubilee Hill Pelynt, Looe, Cornwall. PL13 2JZ

■ Canberra Amiga Users Society Inc
Location: Canberra, ACT, Australia
Contact: Blaz Segavac (Vice President)
✆ (02) 62571607 (AH)
WWW: http://www.spirit.net.au/~jamesm/CAUSe.html
Meeting times: 2nd Thursday of the month, 8pm.
Places: Woden Town Centre Library (Entry – The Elm Cafe).
Address: Canberra Amiga Users Society PO Box 596, Canberra ACT, 2601, Aus.

■ Central Arkansas Amiga Users Group
Location: Little Rock, Arkansas
Contact: Tim Grooms
✆ 501-851-7418
WWW: http://www.concentric.net/caaug.html
Meeting Times/Places: Monthly TBA
Address: 14 Hickory Lane, Maumelle, AR 72113. USA

■ Club De Usuarios Amiga Zaragoza
Location: Zaragoza, Spain
Contact: Carlos Iranzo
Email: cuaz@arrakis.es or ib308295@public.ibercaja.es
WWW: http://www.biosys.net/cuaz
Meeting times: 5-8 pm Thursdays, 10:30am-2:30pm Sundays
Places: Alferez Rojas 14, 50010 Zaragoza
Address: Apdo. 246, 50001 Zaragoza, Spain

■ Colchester Amiga Forum
Location: Colchester, Essex
Contact: Patrick Mead
✆ 01206 212 864 (Mon-Fri Email: pjmead@Hotmail
Meeting Times/Places: TBA
Address:9 Windmill Ct, Copford, Colchester, Essex. CO6 1LH

■ Commodore Computer User Group Queensland
Location: Brisbane, Australia
Contact: Ronny Blake
✆ (07)32871790
WWW: http:www.powerup.com.au/~rastlin
Meeting times:1st Tues of month, 7-9pm & 2nd Sun of month 12pm to 4pm
Places:St Laurence's College, 82 Stephens Rd, S Brisbane. Qld.
Address: 3 Conoble Court, Eagleby, Gold Coast, Queensland, 4207. Australia

■ Computer club Aktief
Location: Lelystad, the Netherlands
Contact: Ji Yong Dijkhuis
✆ +31(0)320 241741 (not after 23:00)
WWW: http://mcs.nl/aktief/amiga/amiga.html
Meeting times: Mondays 19:30 till 23:00
Places: Buurthuis de Krakeling (same as the postal address)
Address: Computer Club Aktief, p/a Buurthuis de Krakeling, Fjord 155, 8224 DJ, Lelystad. NL

■ Convergence International
Location: International
Contact: Ben Clarke
Email: enquiries@convergence.eu.org
✆ 0956 985959
WWW: http://www.convergence.eu.org
Meeting times: 8pm (GMT), Wednesdays and Sundays
Places: #converge (IRCnet)
Address: 49 St. Gilberts Road, Bourne, Lincs, United Kingdom

■ CWCCC
Location: West Midlands
Contact: Luke Stowe
✆ 0966 467596 (after 10am)
WWW: None yet
Meeting times: 8pm-11pm
Places:Earlsdon Methodist Church
Address: 9 Trossachs Rd, Mount Nod, Coventry, CV5 7BJ

■ Deal Amiga Club
Location: Deal, Kent
Contact: John Worthington
✆ 01304 367 992
Meeting times: 7pm Fridays.
Places: St John Ambulance Hall, Mill Hill, Deal, Kent.
Address: 100 Trinity Place, Deal, Kent

■ Dublin Amiga Users Telephone Helpline
Location: Dublin, Ireland
Contact: Eddie McGrane
✆ +353-01-6235903
WWW: http://www.ireland.amiga.org/helpline.html
Meeting times: Anytime (24 hrs.)
Address: 27 St. Finians Green, Lucan, Co. Dublin, Eire

■ Emerald
Location: Northern Ireland
Contact: Charles Barr or Chris McGonagle
✆ 01504 884700
WWW: http://www.geocities.com/SiliconValley/Park/7401
Meeting times/places: TBA
Address: 77 St Colmans Dve, Strabane, Co. Tyrone, N Ireland

■ Extreme Coders
Location: Sheffield
Contact: Mark Johnston
Meeting Times/Places: Call for details
Address: 1st Floor, 145 Upperthorpe Rd, Upperthorpe, Sheffield. S6 3EB

■ Finnish Amiga Users Group
Location: Finland
Contact: Janne Siren
WWW: http://batman.jytol.fi/~saku/
Address: Janne Siren, Oravamaentie 2 F 17, 02750 Espoo. FINLAND

■ Highland Amiga User Group
Location: Highlands, Scotland
Contact: Tommy MacDonald
✆ 01667 404757 Anytime
WWW: http://azone.prohosting.com
Meeting Times/Places: TBA
Address: 7 County Cottages, Piperhill, NAIRN, Scotland. IV12 5SE

■ Huddersfield Amiga Users
Location: Huddersfield, W Yorks
Contact: Geoff Milnes
✆ 01484 543534
WWW: http://www.geemil.demon.co.uk
Meeting times: 7.30pm onwards
Places:Commercial Inn, Market St,Paddock Huddersfield.
Address: 6 Ochrewell Avenue, Deighton, Huddersfield, W Yorks.

■ ICPUG SE Computer Club
Location: Biggin Hill, Kent
Contact: Len Beard

✆ 01689 813 616
Meeting times: Thursdays 8-10pm
Places: Biggin Hill (phone for details).
Address: 56 Rookesly Rd, Orpington, Kent. BR5 4HJ

■ Kickstart, Surrey Amiga User Group
Location: Surrey
Contact: Rob Gilbert
Email: gilbie@arrakis.u-net.com
✆ 01932 875336
WWW: http://www.arrakis.u-net.com
Meeting times/places: Monthly (TBA)
Address: 10 BRox Road, Ottershaw, Surrey. KT16 OHL

■ Knox Computer Club
Location: Galesburg, IL. USA
Contact: Mitch Durdle
WWW: http://www.galesburg.net/~kcc
Meeting times:
First Tuesday of Month 7pm
Places: 695 N Kellogg Galesburg, IL (in the auditorium)
Address: Knox Computer Club
1003 East Fifth Ave, Monmouth, IL 61462. USA

■ Medway & Maidstone Amiga Collective
Location: Medway & Maidstone
Contact: David Prudence
✆ 0961 809466
Meeting times/places: TBA
Address: 34, Norman Rd, Snodland, Kent. ME6 5JD

■ Mutual Amiga Computer Enthusiast
Location: Beresfield, Newcastle, Australia
Contact: Ken Woodward
Email: ken@rich.com.au
✆ after working hours
Meeting times: 7pm 1st & 3rd Wednesday of month
Places: Beresfield Bowling Club.
Address: 59 Carnley Avenue, New Lambton, Newcastle, NS Wales Australia

■ National Capital Amiga User Group
Location: Washington D.C. USA
Contact: Fabian Jimenez
Contact by: Phone (please send us your phone number... Fabian)
✆ 301/924-0750 (10pm – 1am EST)
Meeting times: 12:00 noon EST
Places: Dolly Madison Library
Address: Fabian Jimenez, NCAUG
PO Box 12360, Arlington, VA 22209 USA

■ No Specific Name
Location: London
Contact: Richard Chapman
✆ 0181 998 8599 5pm-8pm week, all day at weekends
Meeting times: 7pm-10pm Thurs
Place: Greenford Community Centre
Address: 96 Meadvale Road, Ealing, London, W5 1NR.

■ Photogenics & ImageFX Users
Location: Stanford-Le-Hope, Essex
Contact: Spencer
✆ 01375 644614 (9am-9pm)
WWW: http://web.ukonline.co.uk/spencer.jarvis/contents.html
Meeting times/Places:TBA
Address: 44 Brampton close, Corringham Stanford-le-Hope, Essex. SS17 7NR

■ R.A.V.A.
Location: Alkmaar, the Netherlands
Contact: Roland de Herder
✆ Wanna call international? Ask me for my number.
WWW: http://www.cybercomm.nl/~macron/rava.html
Meeting times: 12 times a year
Places: Alkmaar
Address: R. de Herder, Ewislaan 35
1852 GM Heiloo, The Netherlands

■ Relax ITC
Location: Poland
Contact: Shandor
Email: shandor1@polbox.com
✆ +48-91-357184
Meeting times: TBA
Places: unspecified
Address: ul.Maciejewicza 1/27
71004 Szczecin 10, Poland

■ SEAL (South Essex Amiga Link)
Location: South Essex
Contact: Mick Sutton (sicky)
✆ 01268 761429 before 9pm
WWW: http://welcome.to/seal
Meeting times/places: various/irc
Address: n/a

■ SOGA – Si Otro Grupo Amiga
Location: Manresa-Torrelavega-Navarra (Spain)
Contact: Santiago GutiÈrrez CortÈs
✆ 942 888 248
WWW: http://personal.redestb.es/sguti
Meeting times/places: TBA

■ South West Amiga Group
Location: South West England
Contact: Andy Mills
✆ 01275 830703 (7-10.30pm weekdays, anytime weekends
Emaol: swag@wharne.u-net.com
WWW: http://www.wharne.u-net.com/swag/
Meeting Times/Places: Every 1st Thursday of the month at the Lamb & Flag, Cribbs Causeway, Bristol from 8:30pm (contact to confirm venue first)
Address: 51 Wharnecliffe Gardens, Whitchurch, Bristol. BS14 9NF

■ South West Amiga Group – Sydney (SWAGS)
Location: Campbelltown, Sydney, Australia
Contact: Mark Vine
✆ (02)46311801 After 7pm
WWW: None yet
Meeting times: 7pm-10pm 2nd & 4th Wed of every month
Places: Airds Community Centre, Riverside Dr, Airds
Address: 11 Kennedy Grove, Appin, N.S.W. Australia 2560

■ Stoke Amiga User Group
Location: Stoke on Trent, Staffs
Contact: Paul Shelley
✆ 01782 833 219
Meeting Times: 7.30pm Wednesdays
Places: Jester Public House, Biddulph Rd
Address: 19 Houldsworth Drive, Fegg Hayes, Stoke on Trent, Staffs. ST6 6TG

■ Stoneybridge BBS
Location: Dorset, UK.
Contact: Ozz
✆ 01202 679158 (10:30pm-6am GMT)
Address: 50 Junction Rd, Hamworthy, Poole, Dorset. (c/o NBI.UK.)

■ Tasmanian Commodore Users Association Inc
Location: Hobart, Australia
Contact: Eric Fillisch
✆ (018) 120 787
Meeting times: 7:30-9:30pm, 3rd Wednesday of the month
Places: Contact for address
Address: GPO Box 673, Hobart GPO TAS 7001

■ Team Amiga
Location: Worldwide
Contact: Gary Peake
✆ 1 281 350 2194
WWW: http://www.wans.net/~gpeake/links.html
Meeting times: Daily
Places: All Nets and IRC
Address: 19723 Teller Blvd
Spring, Texas USA 77388

■ The Other Realm
Location: England
Contact: Peter Luckhurst
www.geocities.com/hollywood/7440
Meeting times/places: TBA
Address: Peter Luckhurst
16 South Way, Shirley, Croydon, Surrey. CR0 8RP

■ The PIE BBS
Location: Dunstable, Beds
Contact: Carl Moore
✆ (01582) 606179
WWW: www.boghole.demon.co.uk/pie/
Meeting times: 10:30pm - 7am (Call between the specified hours only, and make sure you call with ya modem!)

■ Tuggerah Lakes Computer Users Group
Location: Central Coast, NSW. Australia
Contact: Darrell Keirnan
Meeting Times: 1st & 3rd Thursday of every Month
Places: Berkeley Vale Public School 7.00pm
Address: PO Box 659, Toukley. NSW. Australia 2263

■ 2260 Designs
Location: Cyberspace
Contact: Chris Korhonen
WWW: http://www.users.zetnet.co.uk/korhonen
Meeting times: Sat-Sun 8pm
Places: irc.pureamiga.co.uk #E2260

■ University Place C.H. Users Group
Location: Tacoma, Washington USA
Contact: Jim McFarland
✆ (253) 265-3478 evenings
WWW: http://www.nwlink.com/~red-beard/upchug/
Meeting times: 4th Thursday of month
Places: Fircrest Community Center, Tacoma, WA
Address: PO Box 11191, Tacoma, WA 98411-0191. USA

■ Virus Help Team – Norway
Location: Norway
Contact: Helge Syre
✆ +4790175626
WWW: http://home.sol.no/~syre
Address: Roeyrvikvegen 40
N-4280 SKUDENESHAVN

■ Waaslandia
Location: Belgium
Contact: Tony Mees
Email: waasland@glo.be
✆ +32 (0)3744 1319
WWW: http://titan.glo.be/~waasland
Meeting times: 12 meetings per year.
Places: We have 6 Amiga clubs in Belgium:- Antwerpen; Merksem; Aalst; Mechelen; Turnhout; St-Niklaas
Address: Lepelstraat 11, 9140 Steendorp

■ West London Computer Club
Location: West London
Contact: Alan Paynter
✆ 0181-932-1856
Meeting times:1st and 3rd Tues of month
Places: Duke Of York Public House
Address: 19 Harlech Tower, Park Rd East, Acton, London, W3 8TZ

■ Wigan/West Lancs Amiga User Group
Location: Wigan/W Lancashire
Contact: Simon Brown/Ralph Twiss
Email: ssamiga@warp.co.uk
✆ Simon; 01257 402201 or Ralph; 01695 623865
WWW: http://www.warp.co.uk/~ssamiga
Meeting Places:St Thomas the Martyr School Hall, Highgate Road, Up Holland, Lancs
Address: 79 Woodnook Road, Appley Bridge, Wigan, WN6 9JR &
32 Higher Lane, Up Holland, West Lancs

■ XCAD User
Location: N Ireland
Contact: Tony McGartland
✆ 01662 250320 (after 6pm)
Meeting Times/Places: TBA
Address: 11 Lammy Drive, Omagh, Co Tyrone BT78 5JB

Send this form to: User Groups; CU Amiga, 37-39 Millharbour, Isle of Dogs, London, E14 9TZ.

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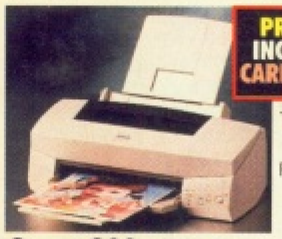
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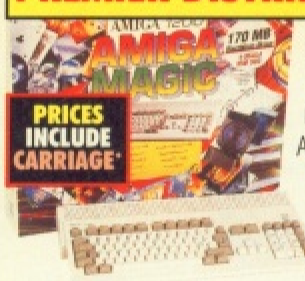
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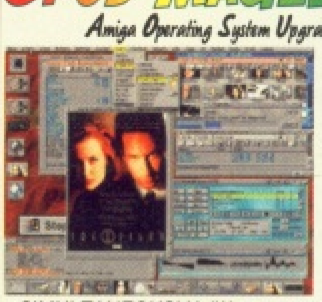
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Amiga Workshop



Roll those sleeves up and get yourself stuck in to the CU Amiga Workshop. Page after page of pure knowledge.

76 Digital Art
Andrew Korn with Part 3 of this art and illustration tutorial. Here he covers web graphics.

78 C Programming
Jason Hulance gets down to the nitty gritty of scanning a directory to unearth the files within.

82 Emulation
In part 3, Doctor Jason Compton suggests a few cures for Mac emulation ailments.

84 Surf's Up
Net God gives you verbal, and Neil Bothwick has some more news of a WWW nature.

85 Surf of the Month
Buzz Bothwick buzzes around some very weird and wonderful websites.

86 Wired World
If there's one thing that gets right up the nose of CU Amiga, it's unsolicited email. Find out how to deal with this scourge.

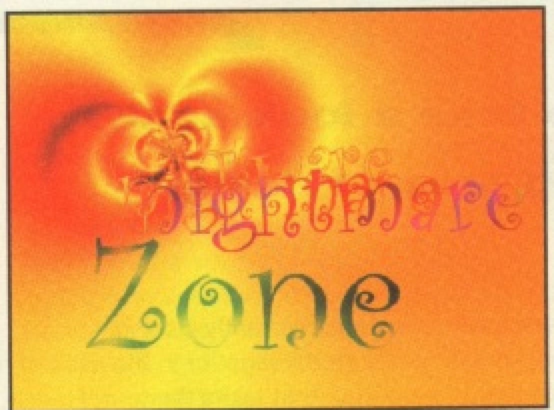
88 Sound Lab
Audio genius Dhomas Trenn shows all you serious electronic musicians how to get the best digital recordings.

90 Reviews Index
The all-new Reviews Index, with the inclusion of CU Amiga's 'hot' recommended products.

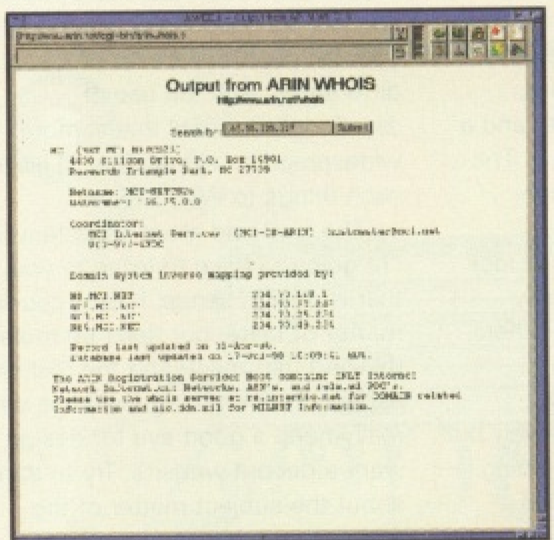
96 Q & A
Got a question about your Amiga? We have all the answers here and more.

99 A to Z
John Kennedy shows off his alphabetical knowledge, with some more Amiga thingies. This month it's the letter M.

106 Techno Tragedies
John kennedy lays another piece of obsolete technology to rest. This month it's the poor old Sinclair C5.



Digital Art p76



Wired World p86



Soundlab p88

Regulars

95 Back Issues
Missed out on an issue? Shame! All is not lost though, as you can probably find the offending article here.

100 Backchat
Comments, general information, criticism, suggestions. Here's a chance to get your name up there in print.

103 Subscriptions
Life is fantastic when you take out subscribtion to CU Amiga, the UK's best selling Amiga magazine. Oh, joy of joys.

104 Points of View
With soap boxes underfoot, CU Amiga staff and contributors let the world know just what they think about stuff. Do *not* mess.

digital art

PART 3

This month we take a look at the fastest growing area of design – web graphics.

The last few years have seen an endless amount of media comment on the way the Internet has changed the shape of publishing forever, removing any kind of peer review from the publishing process. The result is inevitably that there are far more people writing than ever before, and a far larger amount of it is rubbish. The same could be said about design.

The design of web pages is enormously variable. Some pages look like they've been torn from a badly printed academic journal whilst others are works of art. Some achieve an excellent balance of design and functionality, while others look lovely but are horrible to use. The key to getting this right is twofold: planning, and design.

Forward planning

Before you even lift a mouse, you should plan your website. It will be used via a front page – or front end – which accesses the rest of the site. If you have a complex nesting of pages (as we do in the CU Amiga website) you probably want a navigation bar of some type, quite likely a separate frame from the display window. A personal homepage or a less text dense site might be best laid out with a single front end page sending you to further sites. A common compromise is to have a small navigation bar at the top or bottom of the screen.

Once you've planned the structure, you've got to design it. In the following examples I'll be designing a single button, then an image map. The basic difference between these is that the single button has a different graphic for each link, while the image map consists of a single image, which has area sensitive links. The image map approach is the easiest, but there are advantages to having buttons. You could, for instance, have a small row of these at the top of each page, with an alternative image shown for the page you are currently visiting – a ghosted image, or in the case of a button that takes the term literally, the alternate image could appear depressed. Check out the CU Amiga website for exactly this approach. You can get around a lot of these differences with the use of JavaScript, but until that is more widespread on the Amiga, I'll leave such things to Wired World.

The final and most important factor I'm going to have to leave to you, and that is design sense. It is of course a matter of taste, but don't be fooled into thinking that mastering the technical aspects is everything, because you really need a good eye for design if you want a decent website. Try to think about the subject matter of the website and design something appropriate.

Clean, moody or crazed?

Check on the CD this month and you can see some contrasting notions – the CU website is designed with plenty of white, and clean undecorative headings. It is meant to subtly reflect the appearance of the print magazine while keeping an identity of its own, and the no-nonsense presentation is perfectly suited to a site concerned with information. If it was all bright colours and pretty pictures, it would undermine the authority of the text. The website of our production editor Russ Cox, designed by our designer Seshan M, is a great example of a much more graphic site: http://homepages.enterprise.net/coxy The stylised, moody imagery is designed to make an impression and get the viewer in the mood for Russ' latest DJ antics. The image map front page for The Nightmare Zone I designed here is clearly intended for a fun site, although I still haven't decided who or what The Nightmare Zone is! ■

Andrew Korn

Making buttons

There's a rather excellent software package for web design called DrawStudio. Most people probably use it for making CD labels and similar, but for any text based application it is superb. The November '97 issue of CU Amiga included DrawStudio Lite which will give you a good idea of its capabilities, although the lack of 24 bit support is a bit of a problem for this use, so upgrade to the full package – it is more than worth the money. You'll also find a demo of DrawStudio on the CD in the CUCD/magazine/digitalart drawer this month.



The November issue DrawStudio Lite came with a collection of textures which were used for this button. First I selected the swirly backdrop and placed it using the project/place function. This button is designed to be free floating, but you could equally well use something that looks more like a button. Check out the collection of web graphics in the Digital Art drawer on this month's CUCD for plenty more material.

Once the main image is placed, it is time to put the text on it. This is a matter of selecting the text gadget and typing in your text. As it stands it doesn't look too hot, but a moment's work can fix that. Select your text, then hit Duplicate from the Edit menu (picture 1). You can modify the duplicate in various ways – in this case I made it slightly smaller. The duplicate was brought up to front (use the Object menu) and then using the Attribute requester (also in the Object menu) I set the text fill to bitmap and selected another of the supplied textures. The original black text was then re-selected and modified using the Object/Warp menu choice (picture 2).



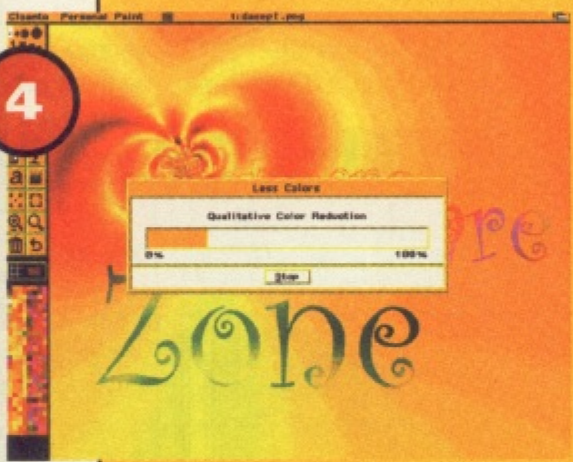
This lets you to twist or turn the text in various ways. By skewing and tilting the black text, then finally moving it into place, I made it look like a shadow cast by the coloured text. Finally, using the Project/export menu and selecting all objects, the composition can be output as a lovely 24-bit JPEG (with the full version of DrawStudio only) at the size you want. Remember to save the project as well as the output so that the text can easily be edited to read whatever you want. The result is a nice professional looking button (picture 3).

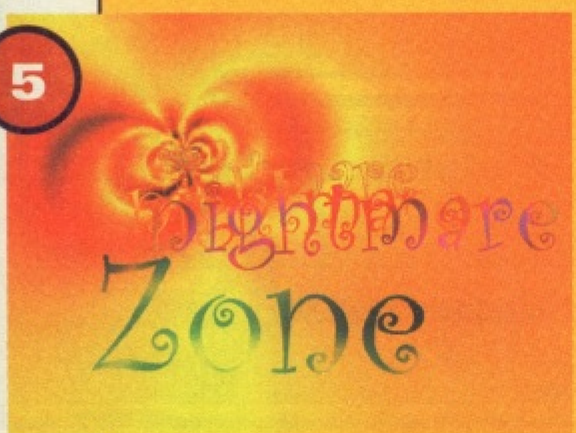


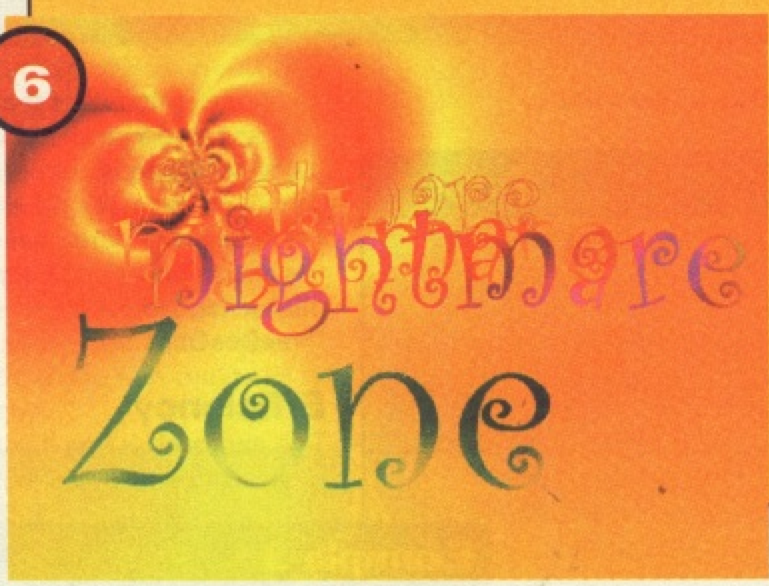
Image maps

The simpler way around the problem is an image map – a picture which has several zones selected as sensitive to mouse clicks. The easiest way of doing one of these is with that old favourite, PPaint 7.1. PPaint will not work with 24-bit images, but in this case you probably want an 8-bit GIF image instead, to keep the file size and hence the download time low.

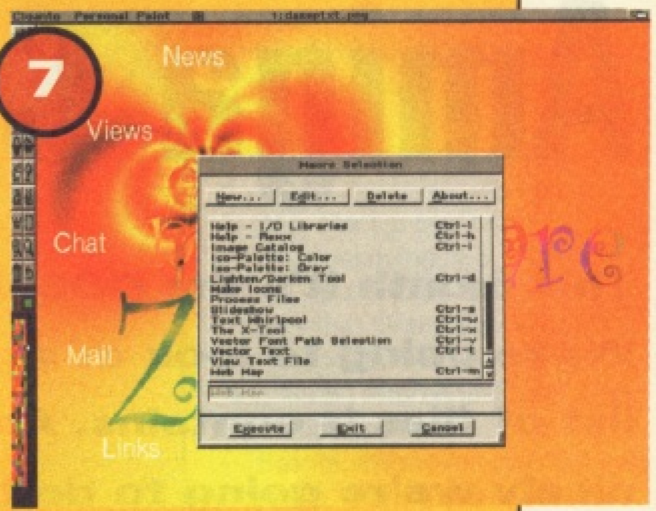
For this example I generated an image in DrawStudio and output it as a PAL size (640 by 480) bitmap. Set DrawStudio's output to 24-bit and let PPaint handle the colour reduction – it does an excellent job of it (picture 4). Make sure that dither is set to Floyd-Steinberg and best quality in the settings menu, and then select reduce colours from the colour menu. It is advisable to stick to no more than 200-216 colours maximum, but you can often get away with a fair few less. Check out pictures 5 and 6 to see how little difference reduction from 16.7 million to 160 colours can make. It's up to you how to approach this – if your 24-bit image map is not too big, then stick with that. You'll still need to convert it down to 256 for use in PPaint, but for the website you can always replace the 256 colour graphic with the original 24-bit version.

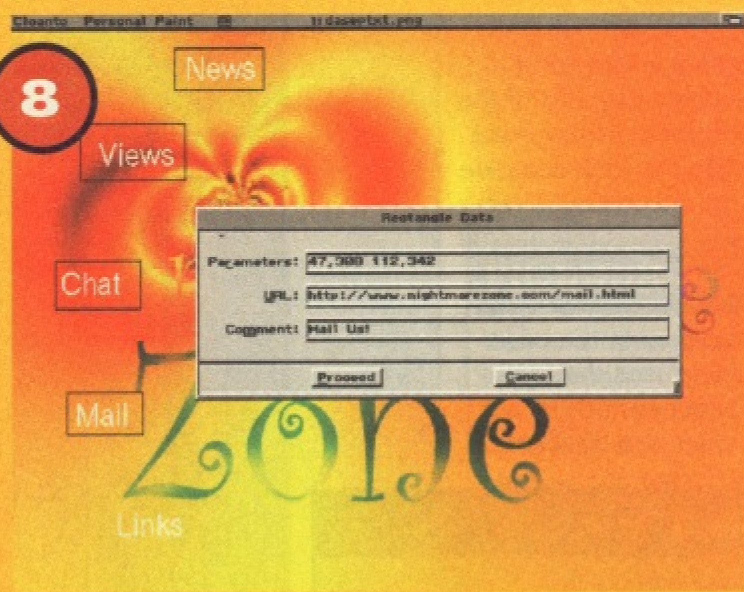






You should have areas of the image which will be your links. This could of course have been done in DrawStudio, but I added text with PPaint. Then select the ARexx button on tool bar (the one with a crown) and select the web map function (pic 7). This excellent script allows you to draw boxes around the parts of the image you want to be buttons. As you do each one, you get a requester box asking you to type in the path of the page you want this to link to – remember that this is going to be different for when the page is on-line than when it is being tested on your computer. In this instance, the various pages linked to





by the text gadgets are very straightforward, www.nightmarezone.com/(text).html where text is named after the button in question (pic 8). To test this locally, you can copy the files to RAM: (or wherever) and run the final HTML through a text editor and do a find/replace "http://www.nightmarezone.com" for "file:///ram:". When you have finished setting your buttons, just select "export HTML" and it will generate the html code ready to be viewed with a browser. You'll want to edit it a little, but this will generate a completely useable website. Check out picture 9!



If you would like to see any particular subject, style or software covered in Digital Art please write in to the normal address marking the envelope Digital Art, or else you can email: andrew.korn@ecm.emap.com with digitalart as the subject line.

Amiga C Programming

This month it's the DOS library that's our primary focus. We're going to look at scanning a directory to find the list of files it contains. And to present the information nicely we're going to do bit of sorting.

PART 14

Last month we looked at Exec lists and the GadTools ListView gadget. We're going to reuse a lot of that stuff, so most of the code will be nice and familiar.

The basic idea is to scan a directory, create an Exec list of the file names and then display them in a ListView. To start the scan we need a lock on the desired directory. Example 1 shows this simple outline.

The first example on the disks, "exall0.c", implements the basic directory scan. It uses the DOS functions "Examine()" (to get information about the directory)

Example 1

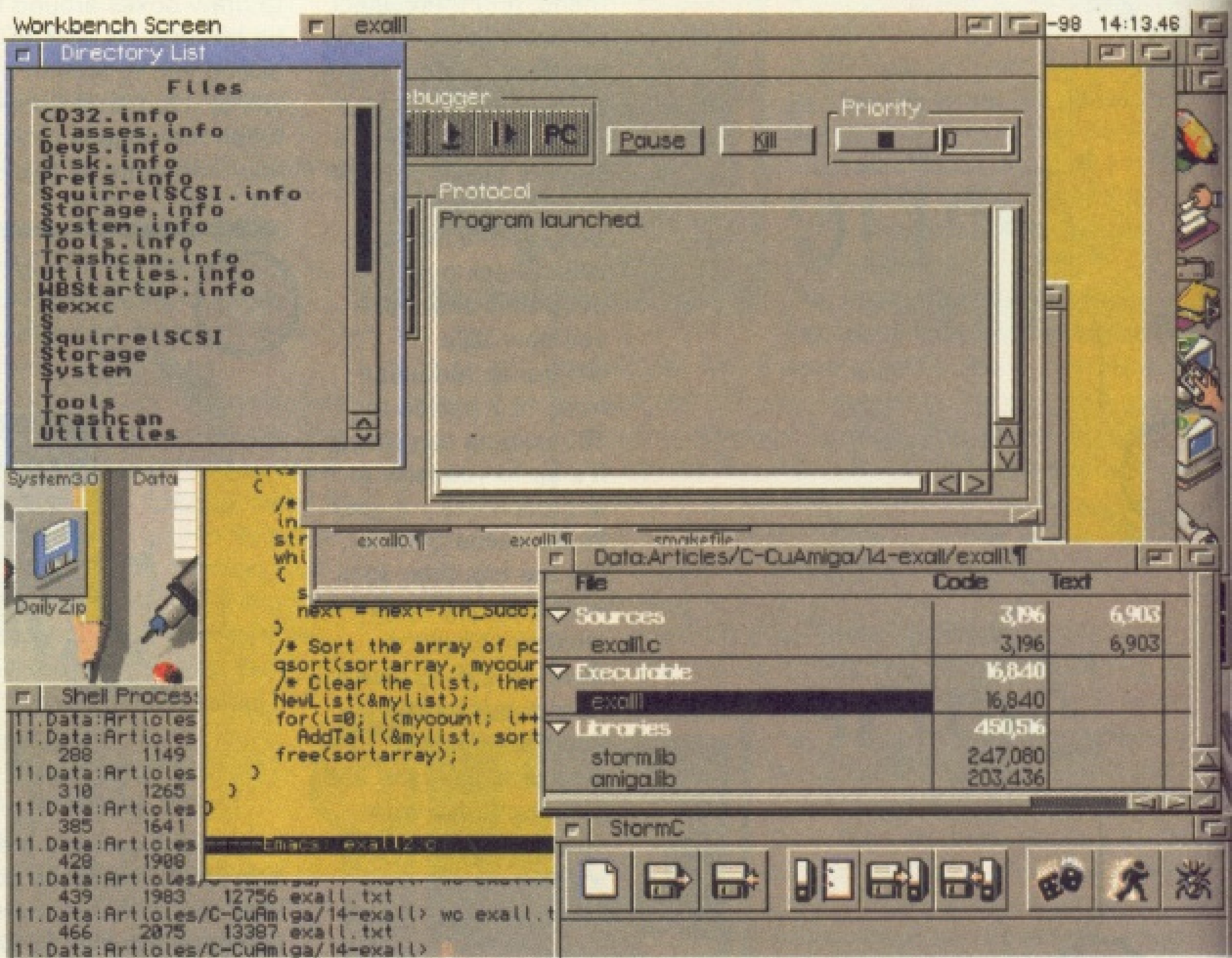
```
int fillList(char* dir)
{
  int success = FALSE;
  /* Get a lock on the directory */
  BPTR lock = Lock(dir, ACCESS_READ);
  if(lock)
  {
    /* Loop round collecting files */

    UnLock(lock);
  }
}
```

and then repeated uses of "ExNext()" (to get each file entry). The code to do this is shown in Example 2.

Most of what this code does should be pretty obvious. The subtleties are that "ExNext()" might return FALSE for one of two reasons: either (a) there was an error, or (b) the scan is complete.

To decide which of these is the real reason, the status can be checked using "IoErr()". This function can also be used (along with "PrintFault()") to inform the user what error happened.



▲ **The directory list, with files in a random order.**

Example 2

```
struct FileInfoBlock* fib = AllocDosObject(DOS_FIB, NULL);
if(fib)
{
  if(Examine(lock, fib))
  {
    while(ExNext(lock, fib))
      addNode(fib->fib_FileName);
    success = (IoErr() == ERROR_NO_MORE_ENTRIES);
    /* Print an error report if necessary */
    if(!success)
      PrintFault(IoErr(), "Error");
  }
  else
    printf("Error: could not Examine directory\n");
  FreeDosObject(DOS_FIB, fib);
}
else
  printf("Error: could not create FileInfoBlock\n");
```

Another subtlety is that the "fib" should be allocated using "AllocDosObject()", rather than simply on the stack. Of course, this brings with it the need to pair the allocation with the appropriate deallocation (done by "FreeDosObject()").

Efficiency

This approach is fine if you're only processing a few files, but in gen-

Example 3

```
#define EABUFF_NUM  (30)
#define EABUFF_SIZE (EABUFF_NUM*size-
of(struct ExAllData))

/* Our buffer for ExAll() */
static struct ExAllData
EABuff[EABUFF_NUM];
```

eral it's quite inefficient, since "ExNext()" is called for each file in the directory.

A much better way of doing a complete scan of a directory is to use the DOS function "ExAll()", which works like an efficient combination of "Examine()" and "ExNext()".

The significant difference is that "ExAll()" can return information about a number of files at once. It does this by filling in a 'buffer': the bigger the buffer, the more files are returned.

But this efficiency does not come for free: using "ExAll()" is a bit more tricky than "ExNext()". And all the complications come from using a buffer...

Using ExAll()

The second example, "exall1.c", uses the "ExAll()" instead of the "Examine()"/"ExNext()" combination. Example 3 shows the first new bit of code: the declaration of the buffer we'll use with "ExAll()". This makes enough space for 30 lots of file details.

Actually, the way we use "ExAll()", this buffer holds the details for many more than 30 files. This is because we request only the filename and no other details about each file. Example 4 shows the complete code for "fillList()" using "ExAll()". The significant points are:

1. the creation of a control object (which is like the creation of the "fib" in the other version);
2. the initialisation of the "eac_LastKey" element in this object (which must be done before "ExAll()" is called for the first time);
3. the logic deciding when processing is complete or whether there was an error; and
4. the processing of a buffer full of file details.

The main complication here is that "ExAll()" may return FALSE to indicate that it is finished, but it may have partially filled in the buffer, so those files must still be processed.

Buffer

A lump of memory that is used to store data temporarily. The main thing about a buffer is that (normally) the memory is allocated once and then reused over and over again. This can be much more efficient than repeatedly allocating and deallocating little pieces of memory.

Example 4

```
int fillList(char* dir)
{
  int success = FALSE;
  /* Get a lock on the directory */
  BPTR lock = Lock(dir, ACCESS_READ);
  if(lock)
  {
    /* Allocate ExAll control object */
    struct ExAllControl* eac =
                AllocDosObject(DOS_EXALLCONTROL,NULL);
    if(eac)
    {
      int going = TRUE;
      /* Must initialise LastKey to zero */
      /* before calling ExAll()          */
      eac->eac_LastKey = 0;
      /* If we got this far we're OK */
      success = TRUE;
      while(going)
      {
        /* Fill the buffer with directory entries */
        going = ExAll(lock, EABuff, EABUFF_SIZE,
                      ED_NAME, eac);
        /* It's only an error if ExAll() returns     */
        /* FALSE and IoErr() signals something other */
        /* than running out of directory entries     */
        if(!going)
          success = (IoErr() == ERROR_NO_MORE_ENTRIES);
        if(success)
        {
          if(eac->eac_Entries != 0)
          {
            /* Run through a buffer load of entries */
            struct ExAllData* ead = EABuff;
            while(ead)
            {
              addNode(ead->ed_Name);
              ead = ead->ed_Next;
            }
          }
        }
      }
      /* Print an error report if necessary */
      if(!success)
        PrintFault(IoErr(), "Error");
      FreeDosObject(DOS_EXALLCONTROL,eac);
    }
    else
      printf("Error: could not create ExAll control\n");
    UnLock(lock);
  }
  else
    printf("Error: could not lock directory\n");
  return success;
}
```

File Details

Looking at the call to "ExAll()", the bits that aren't entirely obvious are the need for the size of the buffer (in bytes) to be supplied ("EABUFF_SIZE") and the specification that the only details that are required are the file names ("ED_NAME").

The values that can be used to control the amount of information that is returned about a file are defined in a rather strange way. They start with "ED_NAME", which specifies that just the file's name is required.

The remaining values are built up in order, each successive one adding one new detail. For example:

1. ED_NAME: Just the name.
2. ED_TYPE: As above, plus the type.
3. ED_SIZE: As above, plus the size.
4. ED_PROTECTION: As above, plus the protection bits.
5. ED_DATE: As above, plus the date the file was last changed.
6. ED_COMMENT: As above, plus the file comment.

So, specifying "ED_COMMENT" instead of "ED_NAME" means that all the above details are returned. And specifying "ED_SIZE" returns just the name, type and size.

Before we move on to the next example, there's one more change to notice. The first program (like all of last month's) ignores the movement of the scrollbar on the ListView (i.e., the list does not scroll up and down).

This is because the window's IDCMP flags do not include those messages generated by the ListView. The small change needed to fix this is to add "LISTVIEWIDCMP" in the appropriate place in the "OpenWindowTags()" call.

FileInfoBlock

Contains information about a file (surprisingly!). This includes the file name, its type (directory or plain file), size, date of last change, comment, protection bits (read, write, execute and delete), and other data.

Sorting

There are a lot of refinements we can make to the GUI, but we'll do that next month. For the final part of this tutorial we'll look at the tricky task of showing the list of files in alphabetical order.

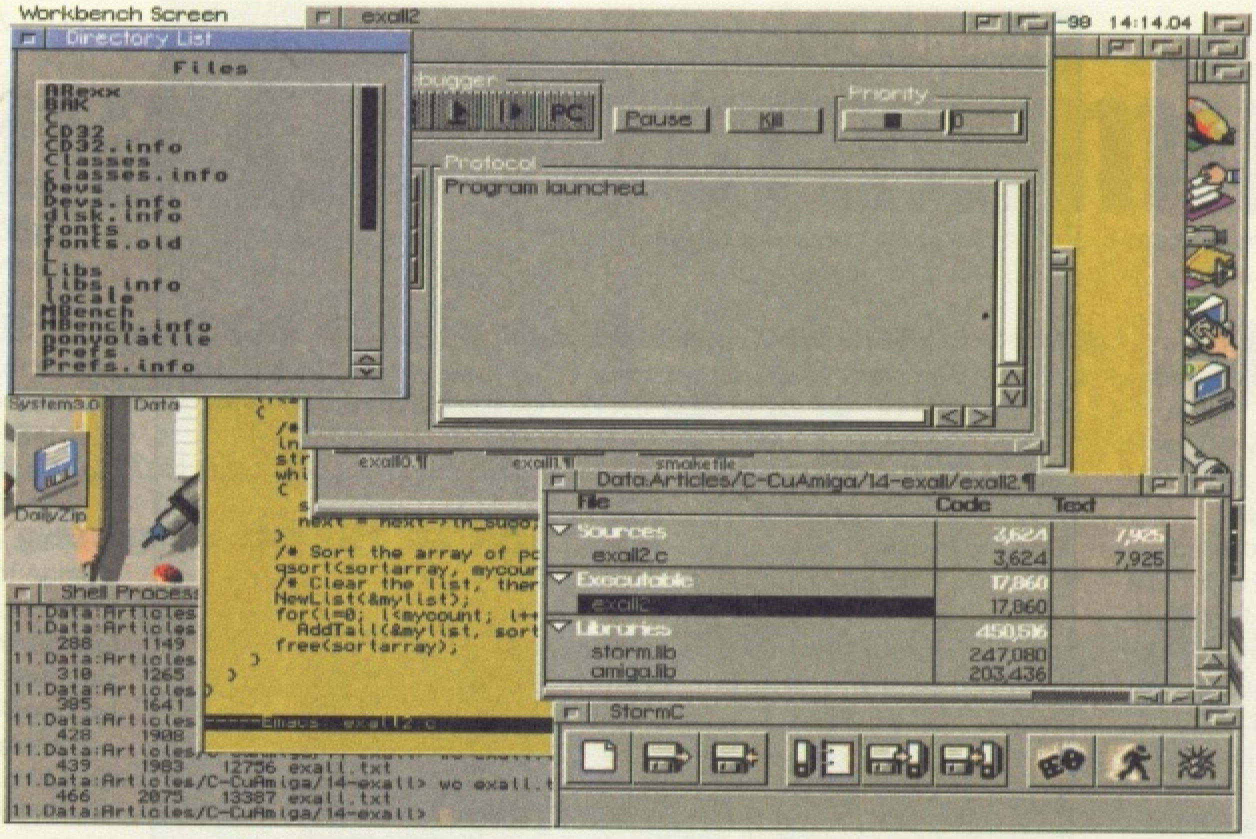
Unfortunately, there's no system function for sorting Exec lists. So we'll have to do it ourselves.

Sorting is (usually) best done using the ANSI C function "qsort()", which is based on the QuickSort algorithm. This function deals with the sorting, but using it gives us another lot of problems: it sorts only tables of data, where consecutive elements are next to each other in memory (i.e., arrays of data).

Exec lists are definitely not the kind of data structure "qsort()" is happy to sort. Not only is the data likely to be scattered around in memory (due to allocating the nodes individually), but each node also contains pointers to previous and next elements, so the nodes cannot just be shuffled around.

One solution is to first copy the list to an array of nodes of the correct length, then sort this (and then relink the list to fix the pointers). Notice that we can only do this once we know how big the list is (i.e., after we've filled it), since we need to know how much memory to allocate for the array.

This solution is rather inefficient, since it involves duplicating a lot of data. A better approach is to make an array (of the same length), but fill it with pointers to the nodes, rather than the nodes themselves. We can then use "qsort()" to sort this array of pointers, then just relink the list in that order.



▲ **Sorted!**

QuickSort

A very fast sorting algorithm invented by Professor Tony Hoare way back in the mid sixties, in the early days of computer science. Other commonly used algorithms include Bubble Sort (slow!), Heap Sort (quick, with low memory overhead) and Radix Sort (good for specific data, not general purpose).

Sorting the List

The third example on the disks, "exall2.c", implements this scheme. Example 5 shows the important new bit: the "sortList()" function, which is called just after the list has been filled.

The global variable "mycount" records the length of the list: it's initialised to zero and incremented each time a node is added. An (inefficient) alternative would be to walk down the list and calculate the length, there and then.

The main bit of this code can be divided into three sections: preparing the array of pointers, doing the sort, and relinking the list.

The first part is a simple walk of the list, much like the code that we saw last month to free the list. The bit to study carefully is the type of "sortarray". It's declared as "struct Node**", since it points to an array of pointers (to nodes).

The last part is a simple walk of the (sorted) array: once the array has been sorted we can reset the list to make it empty, and then add the nodes back again, in the order they're (now) recorded in the array.

Example 5

```
void sortList()
{
  if(mycount > 1)
  {
    struct Node** sortarray =
                 malloc(mycount*sizeof(struct Node*));
    if(sortarray)
    {
      /* Copy pointers to the nodes, in order */
      int i = 0;
      struct Node* next = mylist.lh_Head;
      while(next->ln_Succ)
      {
        sortarray[i++] = next;
        next = next->ln_Succ;
      }

      /* Sort the array of pointers */
      qsort(sortarray, mycount,
            sizeof(struct Node*), &compareNode);

      /* Clear the list, then refill it */
      NewList(&mylist);
      for(i=0; i<mycount; i++)
        AddTail(&mylist, sortarray[i]);
      free(sortarray);
    }
  }
}
```

Using qsort()

The use of "qsort()" is the only remaining tricky bit: you need to supply the array, the number of elements, the size of each element and a function that orders the elements. It's this last bit that's the trickiest: the ordering function (ofte called a 'compare' func tion) gets supplied with pointers to two elements of the array and it must return a value which shows the ordering between them. For identical elements, the return value should be zero. If the first element is 'greater' than the second, then a positive value should be returned. Finally, if the first element is 'less' than the second, a "qsort()" can only be used with compare functions that give a consistent (and total) ordering over the data. This means that if it says that X<Y and Y<Z, then it must also say that X<Z.

Example 6 shows the compare function we need to sort our array. The comparison is between the names attached to the nodes, and the handy "strcmp()" function can be used directly for that. (Actually, the requirements of compare function might help explain why "strcmp()" uses such seemingly strange result values!)

In fact, we've used "stricmp()" instead of "strcmp()", since the Amiga's filing system is case-independent, so the list ought be sorted in that way, too.

Room for Improvement

As ever, there's lots that can be done to improve this. But the main thing is we're pretty close to making our own file requester, having accomplished directory scanning and sorting.

Next month we'll continue with this example and add a few interesting bells and whistles. See you then! ■

Jason Hulance

Example 6

```
int compareNode(const void* a, const void* b)
{
  struct Node** na = (struct Node**)a;
  struct Node** nb = (struct Node**)b;
  /* Use "strcmp()" instead if "stricmp()" */
  /* doesn't work on your compiler         */
  return stricmp((*na)->ln_Name, (*nb)->ln_Name);
}
```

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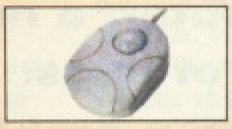
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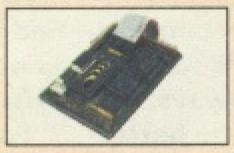
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IDE 24speed £59.00

Chaos pack AGA: 4 great games (on disks)
(The Chaos Engine, Syndicate, Pinball Fantasies, and Nick Faldos Golf). All Amiga Format Gold winners £5.00

Audio Cables for CD ROM's
Stereo jack (3.5mm) plug to 2 x RCA phono plugs 1.2 meter long £5.00
Audio mixer 2 x RCA phono plugs to 2 x RCA phono plugs/sockets 1.8 meter long £6.00
2x RCA phono plugs to 2x RCA phono plugs 1.2 meter long £5.00

Multipass OCR Software
suitable for all scanners and direct scanning support for hand scanners by Migraph, Golden Image, AlfaData and Power £10.00

All prices include VAT. Please add £3.50 P&P for items under £30.00, £5.00 for items over £30.00, £8.00 P&P for CD ROMS & Hard Drives, £10.00 courier for next day. Tax Free Export Orders Welcome.

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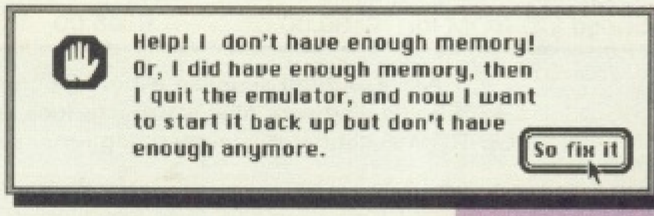
Unit 65, Hallmark Trading Estate, Fourth Way, Wembley, Middx HA9 0LB
Sales Hotline No: 0181 900 9291 Fax: 0181 900 9281
http://www.Goldenimage.co.uk Talking Pages: 0800 600900
Our standard terms and conditions apply – available on request. We do not supply on a trial basis.

Emulation

PART 3

Emulation opens up a whole new OS to your computer; a new set of capabilities, a new software library and a new set of bugs. Jason Compton has some cures for common Mac emulation problems.

Anything worth doing takes a little effort, and we don't all have the time to be experts in every desktop OS. So it's perfectly normal to have some trouble with the emulator on your system. But we got you into this mess, what with encouraging you to emulate everything in sight and loading you down with fun Mac filedisks from time to time, and we'll help get you out of it.



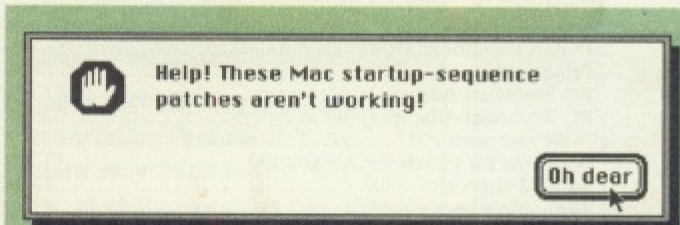
To put it mildly, MacOS and Mac applications use a lot of memory. Fortunately these days memory is also extremely cheap. You can pick up a 16MB SIMM for under a tenner. As always, the more you have, the better – it'll let you do things like keep an emulator and Adobe Acrobat open for reading all of those white papers that seem to be published exclusively in .PDF format these days.

If, on the other hand, you feel you have plenty of memory in your Amiga but find that your Mac emulator doesn't agree, you may have fallen victim to the bitch goddess of memory allocation and fragmentation. Mac emulators need memory in one contiguous block (which might mean all of your SIMMs have to match in size – check your accelerator documentation). Also, if you load up a bunch of programs, even nice big contiguous blocks get broken up, or fragmented. "Programs" includes the Mac emulator itself. Once you quit out of the emulator, if you try to restart you may find that you cannot allocate as much space as you could before.

For example, on a 96MB Amiga you can give close to 90MB to the Mac directly after booting. But after running a 24MB Mac emulation, restarting that emulator now indicates that less than 70MB can be given over, because the 24MB used by the emulation have broken up the big memory block.

So if you've been running your full suite of Internet apps and then expect to run Shapeshifter, you might be in for a real surprise even if you quit all of those applications.

Sometimes, hitting "avail flush" from a shell prompt can get you a little memory back, but a reboot is the best way to cure things.

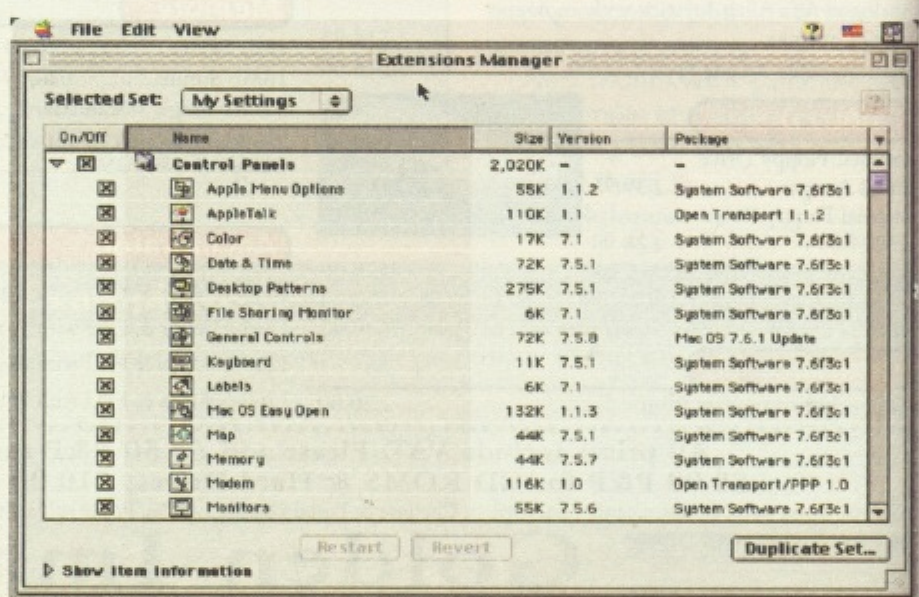


Both Shapeshifter and Fusion require small patches to be run as the first item in your startup-sequence. These programs should force a reboot immediately after you turn your computer on but shouldn't get in your way after that. The most important thing to remember is that when you're troubleshooting the patches, you have to power down the computer (a simple reset won't do) and should try to leave it off for 15-30 seconds just to clear out the memory. If the patch is not working properly (either the machine does not boot, or the emulator claims you have not installed the patch correctly), try installing one of the alternate patches that came with your emulator.

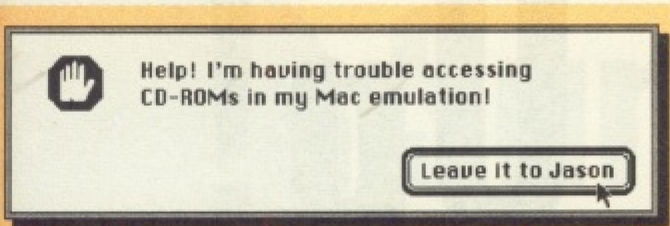
Both ship with more than one. Fusion users having difficulty may even consider trying Shapeshifter's "Prepareemul" program, even if they have no desire to run that emulator, or if you own Fusion but find yourself using SS more often, the reverse may apply. Also, try removing any other patches you may be running. Remember to inspect both startup-sequence and user-startup, as well as WBStartup. phase 5 060 board users should avoid running CyberPatcher.

Oxypatcher also presents some serious difficulties. In general, you should try to avoid running Oxypatcher at the same time as a Mac emulation, but you may wish to keep both patches active. This requires some considerable experimentation, and results vary wildly.

In general, the Oxypatcher patch should take absolute priority (both the Mac and the Oxy patch want to be first in the startup-sequence but Oxy is more insistent), and you may have to experiment at great length to find a solution that works. The Fusion documentation promises that in the future Oxypatcher will be compatible with Fusion, but for now you should steer clear of 040/060 patches when you're emulating.

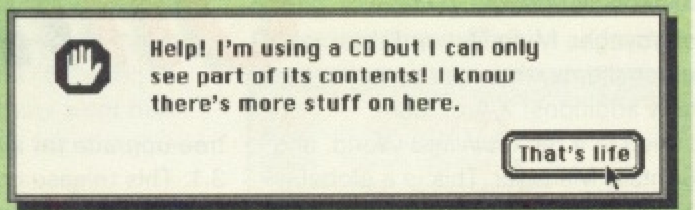


▲ The Extensions Manager, used to juggle all those add-ons



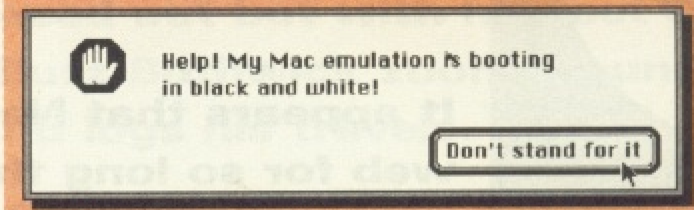
A few things could be wrong here. First of all, you should try to ensure that your MacOS install was complete in the CD-ROM department. If not, try to do a limited reinstall of those items. Next, make sure you're using the latest version of your emulator – both Shapeshifter and Fusion have made some notable changes to their CD handling in recent revisions, and some discs that may have posed trouble before are a joy to use in the new versions. If, under Shapeshifter, you have trouble using the SCSI options and the built-in CD-ROM driver to access discs, check out the empcd driver included in the Shapeshifter distribution. It is a very clever workaround and is actually faster than accessing the CD the conventional way.

The main drawbacks are that it can sometimes be problematic when it comes to disc changes, and audio CDs do not work. The documentation is very easy to follow and it is also extremely straightforward to install.

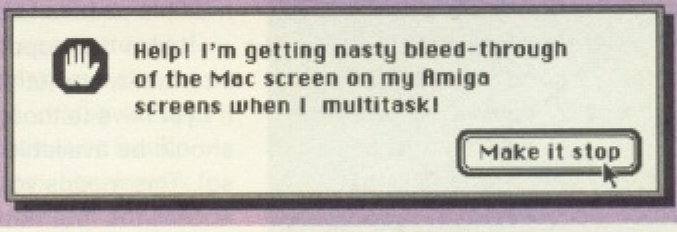


There's a special CD-ROM format used only by Macintoshes called HFS CD-ROM (HFS stands for Hierarchial File System, sort of the Mac's version of FFS on the Amiga).

In general, only Mac-specific CDs are published in this format, and by and large PC and Amiga users neither wish to nor are able to read HFS discs. The one interesting thing about them is that they can also contain a regular, standard ISO 9660 section as well (the sorts of CD-ROMs used by the rest of the world, including Amiga users). Because the MacOS can bring up windows that have been "left out" on the desktop of an inserted disc, including a CD-ROM, you may immediately see all of the HFS contents as soon as you put in the CD as they fly up instantly on the screen. The rest of the data is in there – all you need to do is double-click on the disc icon. That brings up a new window with the ISO 9660 partition of the disc. It seems very obvious, but has stumped a number of people because it seems counter intuitive to have to use the icon if it appears that the CD has already opened on the desktop.



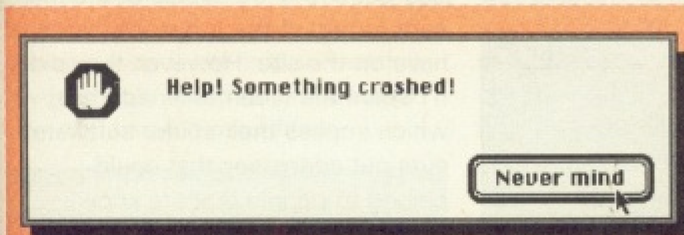
If you're using both Shapeshifter and Fusion on the same Mac partition, this can happen. You check the control panel and it says it should be in colour, but it's not. It's easily fixed – just switch the radio button to black and white, then back to colour. The change will be made. On a related note, remember that Shapeshifter cannot change resolutions on the fly, so if you have a program that doesn't look right you have to shut down the entire emulation, make the change in the Amiga window, then go back.



If you're using a graphics card, chances are you've noticed that there is often some strange "ghosting" of the Mac display on your Amiga screens, or occasionally the other way around.

If your video driver uses direct access (which is the fastest, so most people use it), this will happen whenever the Mac screen is updated while it is not actually visible – the program writes to the video memory anyway, smearing it all over whatever you're working on. There are a few ways to avoid the problem. The first, and most obvious, is to use a driver that is not direct access, although you take a speed penalty. Because of that fact, you should try to only turn direct access off if you will have to multitask while the Mac desktop will be very visually busy – like running a Quicktime movie. Another is to freeze the screen display in Shapeshifter by pressing Control-Tab (and again to release it). This isn't a perfect solution, but it helps.

Finally, when you are transferring files from the Amiga to the Mac using either SS's MacHandler or Fusion's ICP system, close all of the hard drive windows on the Mac desktop. Why? Because as soon as you copy the files over, the windows will update with the new file and free disk space information, causing the bleed through!



There's one nice thing you can say about Mac system failures. You can't recover from them very often, so you don't have to rack your brain for a short-term solution. By and large, most problems the OS deems necessary to tell you about will require a restart. But after that happens, you're left without much assistance – and the OS may even yell at you for not shutting down properly. There are a couple of rules of thumb to remember when troubleshooting Mac programs that won't run.

1. Make sure the program is compatible with a real Mac of the calibre of your emulator. Not all Macs were colour, or could run System 7, or had 32-bit memory and a true 32-bit CPU. And programs that won't run on a real Mac that has those things will fail just as spectacularly on yours. Similarly, there are a few applications that are not PPC but are beyond the capacity of some emulators – like System 8 and Shapeshifter, currently an incompatible pair.

2. Disable all of your extensions and start again. Extensions are startup items for the Mac. By holding down the shift key during the boot sequence, you can prevent them from being loaded. After installing a few dozen applications, your extension list (the little puzzle pieces at the bottom of the boot screen) tends to resemble a cobblestone road, and sometimes those little buggers cause conflicts.

It's not such a bad idea to sift through them every so often and figure out if you really *need* them. Note: depending on your version of MacOS, you may have an Extensions Manager application, which lets you select and deselect what extensions will be run on the next reboot, rather than skipping them wholesale as the shift key trick does.

With a little help and patience, you'll be an OS polyglot in no time. Check back next month for more exploration of emulators for fun and profit.

Surf's Up!

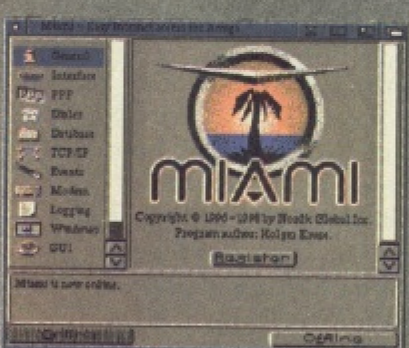
It appears that Neil Bothwick has been glued to the web for so long the poor chap's starting to see strange creatures... Nessie and the Yeti in fact!



NetGod speaks...

What is it about Internet software that arouses such strong feelings of loyalty and loathing? It seems that every Amiga-related mailing list and newsgroup has a significant number of posts saying that you *have* to use XyzTCP or ABCNews. Just about every program going has its good and bad points (with the obvious exception of a lot of AMOS stuff ;-), and what's best for one person is not what someone else needs. So why do you get so many posts saying "this mailer/newsreader/TCP stack is the best and everything else sucks"?

I couldn't give a damn what program you use to write an email, and whether you send it using AmiTCP, Miami or two cans and a piece of wet string. As long as I get it and it's readable, I'll read the mail, not the envelope. It's good that we have so much quality software that people can get so enthusiastic about it, but let's not lose sight of the fact that the Amiga was always about choice. I'm pleased that you're happy with Voyager; keep using it but don't criticise me for choosing IBrowse.



Spam seems to be on the rise again, or are they just targeting me? At least in the bad old days of Cyberpromo we knew where it was coming from and could take steps to filter it out. Now it's coming in from all directions. The first person to develop a thermonuclear mailbomb should be canonised.

Which is the odd one out: the Loch Ness Monster, the Abominable Snowman or NetConnect2? They were all mythical creatures that were rumoured to exist but had never been seen and verified, until a few days ago. No, I haven't been on holiday in Scotland or Tibet, I've finally received a copy of NetConnect2. This is only a pre-release, although pretty close to the final version, so a review may not happen until next month. You can try it for yourself from this month's cover CD. The new Genesis TCP stack, based on AmiTCP is a big improvement, with a better configuration GUI, display of online time and connect speed and support for multiple users and/or accounts.

It also has support for multiple interfaces, something Miami doesn't yet have (although Miami Deluxe should be available in a month or so). This means you can now access the Internet and a local network at the same time, and the new dialin Wizard makes it a doddle to set up. I've always been a bit sceptical about these automatic setup programs, but this one generated an almost perfect setup on the first try, very similar to my hand-optimised Miami configuration.

CU AMIGA MAGAZINE Online

As well as updated versions of Voyager, MicroDot and the other clients, there are two new additions: X-Arc, mentioned in a recent Wired World, and Contact Manager. This is a global address book, covering phone, fax, WWW, FTP and email addresses. It is designed to integrate with various programs so you can keep all your contact and bookmark information in a single database. There is already support for Voyager, MicroDot, STFax and Directory Opus, with more to be added.

AWeb updated again

Another update, one that is on public release, is AWeb 3.2. This is a free upgrade for all users of 3.0 and 3.1. This release contains a few small bugfixes, some enhancements to the JavaScript and SSL handling and that much requested feature, an iconify option. The upgrade is available for download from the Amitrix home page.

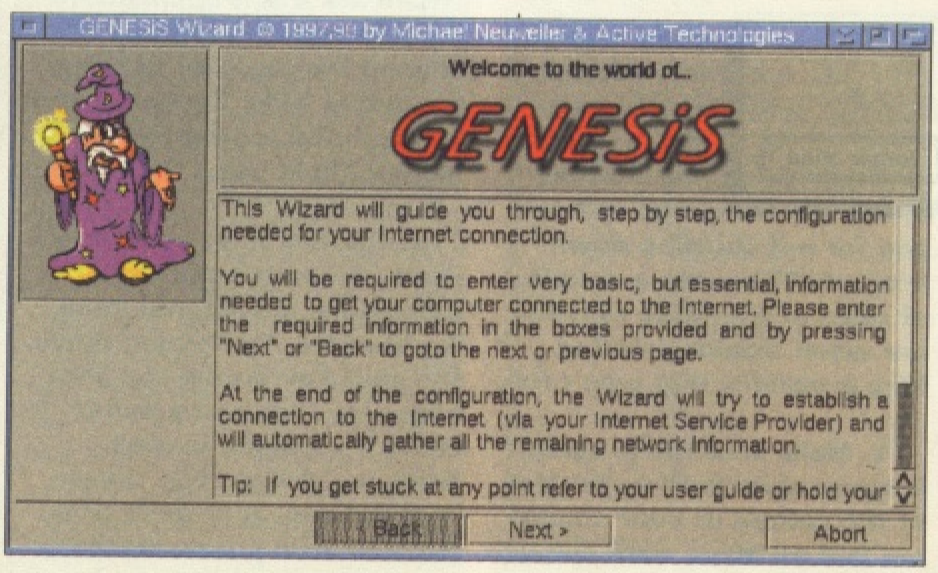
CU-List spammed

The CU Amiga mailing list was recently spammed. This caused a few people to worry that the spammers had somehow got hold of the subscribers address list.

Don't worry, all they did was get the posting address of the list from the CU Amiga Online web site and post to that, the mail was then sent out to all list subscribers. It is clear they were using some sort of web spider to collect addresses, since I also got two extra copies of the mail sent to two of the three addresses I have on the site. However, they didn't spam the webmaster address, which implies their spider software cuts out addresses that could belong to people that are knowledgeable enough to do something about being spammed like this.

So if you have a mailto link on your own web page, and you have the option of multiple addresses, it may be better to use a webmaster address than your normal address. Subscription details for the list are on the contacts page of the CU Amiga web site. ■

Neil Bothwick





Surf of the Month

He may seem a bit spaced out but with his feet still firmly on terra firma, Buzz Bothwick zooms round the cosmos of websites and logs his travels.

I know I've mentioned it before, but space and science fiction have always been very popular with Amiga and Internet users alike. Programs like Distant Suns and Digital Almanac can give an idea of what the night sky will look like at any particular time, but to see more detail you need a lot more expensive hardware than an A1200, unless it has a modem. The **Astronomical Images Archive** contains a massive collection of images from around the web, collated into a single collection. If you can't find what you want here, you can surely find a link to somewhere that has it.

Sci-fi jinks

Those more interested in science fiction than science fact have an



Scifiweb.com

equally impressive choice of sites to visit. One such is **ScifiWeb**. It's probably not for you if you take your science fiction too seriously, but if you enjoy sci-fi rather than worship it you should find this an attractive site. You know those fifties



The Astounding B Monster

B movies, the ones that were so bad they were good? Well someone thinks enough of them to devote an entire site to them. **The Astounding B Monster** is perfect for all those people that love these old movies but would never admit to it. But not every Internet user is a sci-fi buff, and there are web sites devoted to just about any pastime you care to think of. If you enjoy collecting things, almost anything, you're likely to find something of interest at the **Collectors Super Mall**. In addition to



Collector's Super Mall

the expected topics of antiques, militaria and celebrity items, you can also find information and links on the less obvious collectors items, like "500 Years of Collectable Golf Balls". Bet you can't wait...

Tee time folks

If you spend more time losing golf balls than collecting them, **Golfcourse.com** may be more to your liking. With its course locator, a comprehensive database of courses containing information and reviews and a wealth of news, profiles and background information, it looks an essential resource for those that enjoy hitting a very small ball round a very large field.

Jazz Central Station is an essential site for fans of jazz music, offering news, events and reviews from the world of jazz. It is pretty heavy on graphics, making browsing from a slow connection a pain, but that probably doesn't matter to a true jazz afficionado [why? - Ed].

One of the most surprising finds during my recent travels on the web



JCS: Jazz Central Station

is the **FBI Electronic Reading Room**. This contains scanned copies of many FBI files, including files on the gangster era and celebrities such as Marilyn Monroe, Elvis Presley and the Duke and Duchess of Windsor. There is a section on "Unusual Phenomena" containing reports on UFO sightings, animal mutilation, Roswell and Project Blue Book. The documents are all in PDF format, so you will need to download them and read them with GhostScript or xpdf, or use Acrobat Reader on ShapeShifter or Fusion.

Many Amiga users also have a **Sony PlayStation** for games use, and the PlayStation site is pretty impressive. It was designed to use the latest technology and is said to make extensive use of ShockWave, so I was prepared to be disappointed when viewing it with an Amiga browser. But the designers appear to realise that not everyone has the



The Rat Palace homepage

latest whizz-bang technology and have taken the trouble to make it look good with nothing more advanced than animated GIFs and JavaScript. If you have a PlayStation, you really shouldn't miss this site.

Rats the spirit

One thing the web isn't short of is home pages that contain a description and picture of the owner and maybe some of his friends. **The Rat Palace homepage** is just another one of these, although there is a slight difference. The owner and all his friends are rats, although he does make the occasional reference to their humans. Presumably these are pets they keep to do things that rats find difficult, like typing HTML into a text editor. It's not just pictures and a bit of description, these are talented rats, as "The Tragic Tale of Blackstaff Errol" shows. ■

Neil Bothwick

URLs

Astronomical Images Archive	http://www.stwing.upenn.edu/~jparker/astronomy/index.shtml
Scifiweb.com	http://www.scifiweb.com
The Astounding B Monster	http://www.bmonster.com/
Collector's Super Mall	http://www.csmonline.com/
Golfcourse.com	http://www.golfcourse.com/
JCS: Jazz Central Station	http://www.jazzcentralstation.com/
FBI Electronic Reading Room	http://www.fbi.gov/foipa/foipa.htm
Sony Playstation	http://www.playstation-europe.com/playstation/home/l.html
The Rat Palace homepage	http://www.geocities.com/Heartland/Plains/6767/home.html
CU Amiga Online	http://www.cu-amiga.co.uk

Wired World



Junk email; one of the more emotive of Internet topics. Our man Neil Bothwick looks at some of the techniques of dealing with spam.

The first question to ask is "why do you get so annoyed about it?" The average email takes about 1 second to download (assuming a 5K mail and a reasonable modem connection speed with data compression). Even at BT's daytime rates this only costs one-twentieth of a penny, if you get three spam mails a day it will cost you around a penny per week. So let's forget the "spam is costing me money" argument and look at other objections.

It is invasive: It certainly is, there's something very objectionable about the way junk email is sent out, far more so than with junk snail mail. Don't ask me why, but everyone seems to react strongly to receiving spam.

It is offensive: Some mail contains pornographic or other offensive content. This is a very real objection and merits immediate action.

Before looking at ways of dealing with spam mail, there are other types of mail that are equally unwelcome and would benefit from similar actions. Mail bombing involves either sending large emails or a lot of small emails. This is usually directed at a specific individual. Not only can this be expensive to download, but it clogs up your mailbox delaying the delivery of genuine mail. If your ISP limits the size of your mailbox, it could even result in genuine mails not being delivered. Even worse is abusive email, containing personal attacks, threats etc. Fortunately this sort of thing is very rare, but any instances of it should be dealt with immediately.

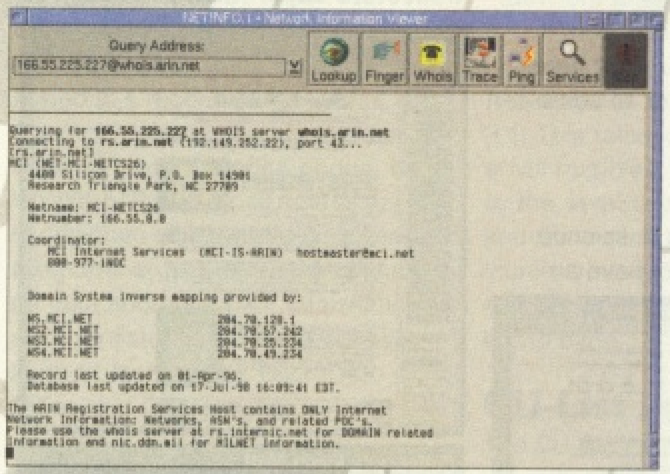
Don't make things worse

So when you receive some junk mail, what are your options? The first, and most important, rule is never, ever reply. In many cases the From address is non-existent and you will receive yet another unwanted mail when your reply bounces. More insidious is the spam that says you can be removed from their list by replying. All this does is confirm to the spammer that your address is valid, and they can add it to their list of verified address, which they then sell to other spammers. Another technique used by mail bombers and spammers is to use someone else's address, so that person gets mail bombed with the complaints, both to them and their ISP.

So if you can't reply to the mail, what can you do? There are three main options, delete it, filter it and complain about it.

Delete it? This is often the best option, why give yourself an ulcer worrying about the rubbish these jerks send you, just hit delete and think that they wasted more time sending it than you did binning it.

Filtering can be done in two ways. Some ISPs offer a means of deleting mail before it even reaches your mailbox. You set up some parameters that match the spam (and



▲ **Then we use whois on the ARIN server to find out who is responsible for the domain.**

nothing else) and anything that matches is deleted. Configuration is either by uploading a killfile or specifying kill parameters via a web interface. Most mail programs offer some sort of killfile facility, these usually mean that you still download the mail, but you don't get to see it. There are programs that will scan each mail in your mailbox and delete any in your killfile, but this usually takes longer than downloading then killing with POP3 mail. If a mail is OK, you then have to read the headers again when downloading the complete mail, so unless you get more spam than real mail, it's just not worth it. Demon subscribers who still use SMTP mail collection have another alternative, GetMail.

If you want to complain, the first thing to do is find out who to complain to. There's no point in complaining to the sender, if they cared about complaints they wouldn't be inflicting this junk on everyone in the first place. To send junk email, you need to be connected to the internet, so the person to complain to is whoever is providing the spammer with their internet connection. Most ISPs have set standards, defining what is acceptable use of their service, and what happens when you do otherwise. These usually say spam is bad and spammers are not welcome, so a complaint to the ISP will often result in the spammer's account being cancelled, or maybe a warning for the first offence.

Follow the trail

So how do you find an address to complain to? The information you need can almost always be deduced from the headers of the mail, these are the headers from a spam mail recently sent to the CU Amiga mailing list, and also to other addresses found on the CU web site, this copy was sent direct to me.

1) From: no9V9ozSP <no9V9ozSP@ju1stn8.ch>

2) Subject: "Miss this, regret it forever"

3) Date: Thu, 2 Jul 98 12:27:00

4) Message-ID: <E3zBsfD322Aak9O2>

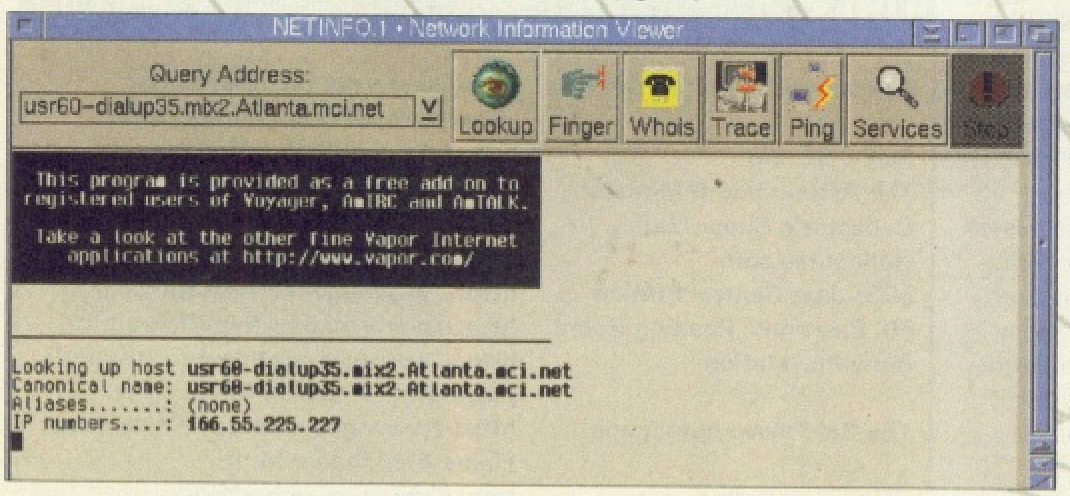
5) Reply-To: bell@dng33.com.de

6) Return-path: <no9V9ozSP@ju1stn8.ch>

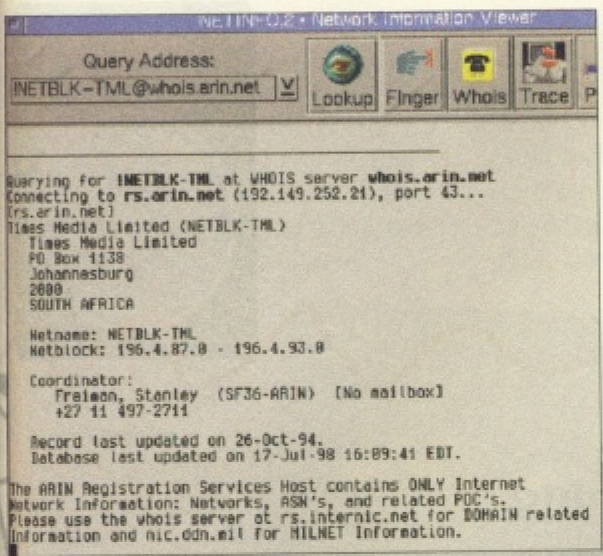
7) Envelope-to: neil@wirenet.u-net.com

8) Delivery-date: Mon, 6 Jul 1998 13:27:55 +0100

9) Received: from (hot.virtual-pc.com) [194.217.102.6] by



▲ **First we verify the domain name and IP address, to ensure they aren't faked.**



▲ Looking up information on the "intermediate" domain in South Africa. Odd that an Internet domain should have no email address for its main contact.

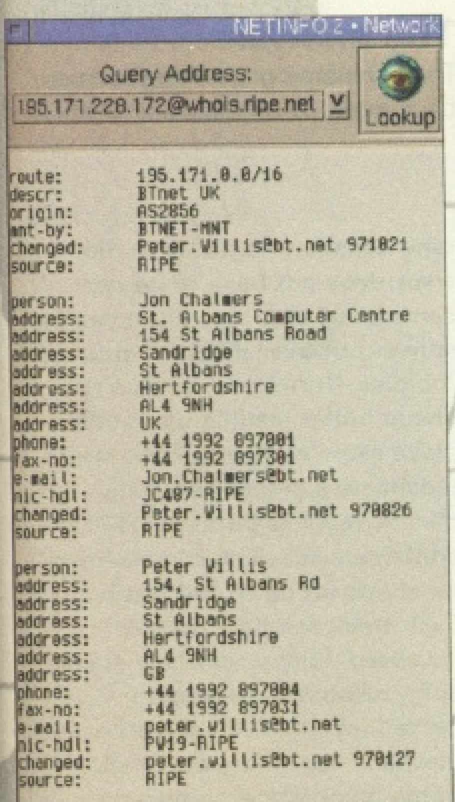
mserv1b.u-net.net with esmtp (Exim 1.82 #2)id 0ytAN8-0001ZF-00; Mon, 6 Jul 1998 13:27:54 +0100

10) Received: from hawk.tml.co.za (hawk.tml.co.za [196.4.87.22]) by hot.virtual-pc.com (8.7.5/8.7.3) with ESMTP id NAA11387 for <culinks@wirenet.co.uk>; Mon, 6 Jul 1998 13:28:31 +0100 (BST)

11) Received: from 3w5HUE05Z (usr60-dialup35.mix2.Atlanta.mci.net [166.55.225.227]) by hawk.tml.co.za (8.8.7/8.6.12) with SMTP id FAA24413; Fri, 3 Jul 1998 05:29:26 +0200 (GMT)

The From:, Reply-To: and Return-Path: headers (1, 5 & 6) are faked, ignore them. The most important headers are the Received: ones. Each machine that receives a mail and passes it on adds another Received: header, so you can track the route the mail took. Looking at the addresses, and knowing that the final destination was the U-Net server, you can see that the headers are in reverse order. We are interested in where the mail originated, so line 11 is the one that counts.

There are two tools that are very useful for tracing companies from this information, lookup and whois. There are shell commands for these, and web interfaces for most whois servers, but the easiest program for this is Netinfo. Lookup takes a domain name and gives you its numeric address (or vice versa), so you can check that the addresses used in the Received: headers it real. Checking usr60-dialup35.mix2.Atlanta.mci.net does indeed show it's address to be 166.55.225.227, so now we use whois to see who owns it. There are different whois servers for different areas, NetInfo uses rs.internic.net as default, which covers mainly .com domains. By giving the numeric address, followed by "@whois.arin.net" you get information on just about any domain. As you can see from the screen grab, this returns details on who owns that domain, complete with an email address. Now we've got someone to complain to, this is the organisation that owns the domain used to post the spam.



▲ This is what you get when you look up btinternet.com. Anyone giving this much contact information must be willing to deal with abuse complaints.

Tell them everything

Before you complain, remember that this organisation did not send the spam, but their service was used to do so. There's no point is sending a rabid rant, just inform them of what has happened and ask them to take the appropriate action. It is vital that you send them the entire mail so they can follow it up. Many ISPs have a separate mailbox to deal with net abuse, so send your complaint to abuse@wherever.com too. If you get an automated reply, but no human response within a few days of that, resend your complaint, asking that it receive proper attention. At all times be polite, if you rant your mail is likely to end up in the bin. Before sending a complaint, it may be worth looking for information about abuse policies and contact addresses on the web.

Another example

1) From: amanda <amanda@iname.com>
2) Subject: U.K. Adult Dating !!
3) Message-ID: <199807171105.MAA18457@boober.lineone.net>
4) Return-path: <amanda@iname.com>
5) Received: from (hot.virtual-pc.com) [194.217.102.6] by mserv1b.u-net.net with esmtp (Exim 1.82 #2)id 0yx8K1-0006T8-00; Fri, 17 Jul 1998 12:05:05 +0100
6) Received: from boober.lineone.net (boober-be.lineone.net [194.75.152.84])by hot.virtual-pc.com (8.8.8/8.8.8) with ESMTP id MAA10599for <postmaster@wirenet.co.uk> ; Fri, 17 Jul 1998 12:00:19 +0100 (BST)(envelope-from amanda@iname.com)
7) Received: >from iname.com (host5-171-228-172.btinternet.com [195.171.228.172]) by boober.lineone.net (8.8.5/8.8.0) with SMTP id MAA18457; Fri, 17 Jul 1998 12:05:33 +0100 (BST)

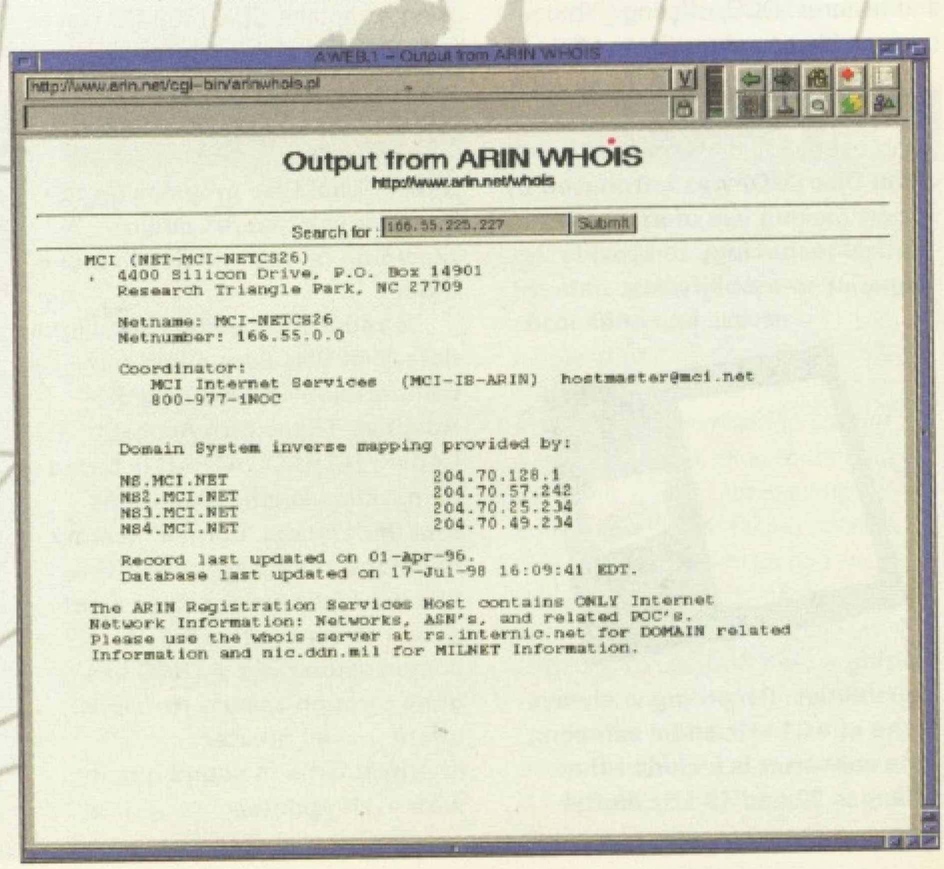
iname.com is a mail forwarding address, much like a hotmail or bigfoot address. You can see immediately that the message came via btinternet.com and lineone.net.

A whois search for 195.171.228.172 using the server at whois.ripe.net (RIPE handles domain and address allocation for Europe) returns detailed information including a name and email address.

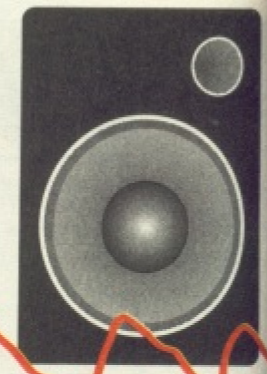
For some reason, this mail went from MCI (in America) to my mail server in the UK via a host with a .za (South Africa suffix). This seemed odd so I repeated the lookup and whois procedure for them. Not only was it odd that the mail went via South Africa, but the contact for this domain has no email address! However, there were full address details, so it should still be possible to complain to them if you wished.

Whether you choose to actively fight spam by complaining to ISPs, or whether you prefer to simply ignore it, it's good to know that it is possible to complain to people with the power to do something about it. Not all Internet Providers will take action against spammers, some of them make too much money from them, so don't expect a positive result every time, but complaining does work, and does get results. By helping reputable providers to clamp down on these activities, you are helping to make the Internet that little bit better for everyone. ■

Neil Bothwick
(cucd@wirenet.co.uk)



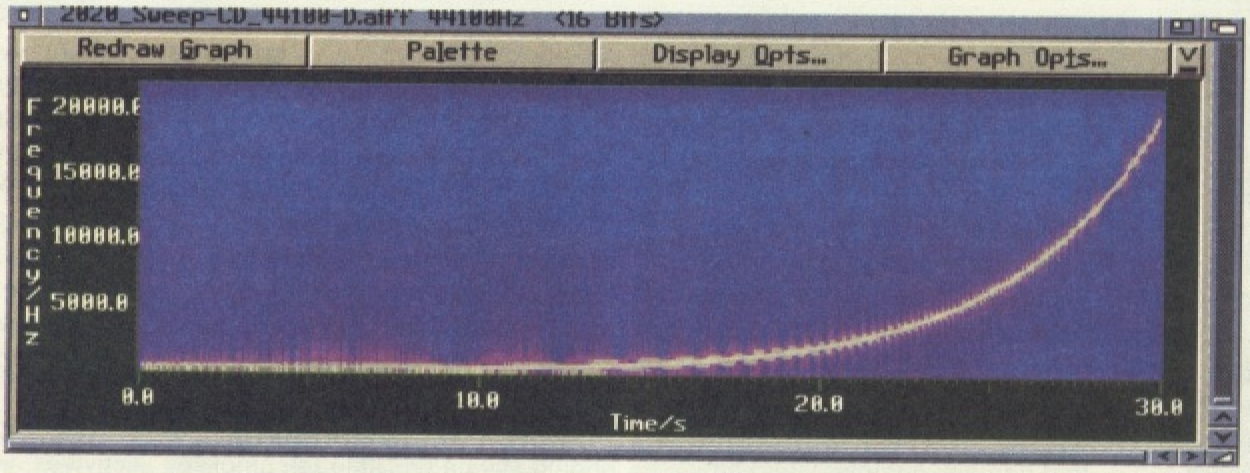
Sound Lab



Digital audio recorders

If you're serious about your music, you'll want nothing less than the best digital recording device for mastering your tracks.

You'll be well aware from last month's audio splash that recording direct to hard drive at CD quality is well within the remit of any half decent Amiga set-up. Even so, while it has many unique pluses, hard drive audio recording isn't necessarily the most convenient method of mastering your music. There are currently three alternative options worth considering if you'd rather use some outboard recording equipment. The industry standard DAT and the up and coming Mini Disc both offer digital recording from analogue and digital sources at or close to CD quality, each with its own strengths and features. DCC, offering comparable sound quality to Mini Disc, was tested in the January 1997 issue of CU Amiga. For now we subjected DAT and Mini Disc to a rigorous set of tests in the Sound Lab...



The test procedure

A short music clip and a 20 Hz-20 kHz sine wave sweep were played, using a Yamaha CDX-1050 CD player, and recorded with each recorder through its digital input. The Mini Disc recorder was also tested using analogue connections. A Sony DTC-690 DAT recorder and Sony MDS-JE510 Mini Disc recorder were used for the test. All recordings were done in stereo at 44.1 kHz.

In all cases, the digital and analogue audio cables provided with the MDS-JE510 were used. The source CD, DAT and Mini Disc recordings were digitally transferred to the Amiga to insure that no changes in the sound would be introduced. This was done using a Maestro Pro digital audio I/O card.

Once transferred to the Amiga, the music clips' left and right channels were mixed to mono using SoundProbe. In the case of the sine wave sweeps, the left channel was removed. Next, SoundFX was used to crop each sound and to isolate a five second section from each of the music clips. These short sections were then loaded into SoundProbe to generate the frequency graphs in Figures 1-5.

The analysis

The generated graph images have been included on the cover CD-ROM

Mini Disc

Mini Disc (MD) was introduced by Sony, making use of magneto-optical technology to provide superior re-usability, fast data access and enhanced editing capabilities. Recording is always done at 44.1 kHz and a sampling rate converter is included that changes 32 and 48 kHz digital inputs. Mini Disc provides up to 74 minutes of stereo audio recording or 148 minutes in mono mode.



To reduce the amount of digital data,Mini Disc uses a lossy compression scheme called Adaptive TRansform Acoustic Coding (ATRAC). ATRAC is based on psychoacoustic algorithms that understand 'normal' hearing functions and thresholds. These filter/reduction algorithms create a data stream with a 5:1 compression ratio. ATRAC has gone through several revisions, offering even greater improvements in sound quality with each update.

Use of ATRAC or any other lossy compression scheme, however, means that multi-generation copies, even when recorded digitally, suffer from increased data degradation. So, exact duplicate copying is not possible. Like DAT,Mini Disc also conforms to the SCMS standard.



Mini Disc storage is very much like that of a hard disk. Unlike tape based systems, an audio track does not have to be one continuous data stream. It can be spread out over different areas of the disc. During playback, a read-ahead buffer insures that audio plays seamlessly while the read mechanism moves about the disc. A Table of Contents (TOC) contains a list of starting/editing locations for up to 254 tracks. Each track can be quickly accessed, fully or partially erased, split, combined, reordered, named (up to 1700 characters per disc) and date/time stamped. Some recorders even include a handy undo function to restore your last edit.

DAT

Digital Audio Tape (DAT) was developed by Sony and Philips as a recordable format with quality comparable to that of CD. Much like systems used in video recorders, a rotary-head design allows for uncompressed data storage which is a big plus for digital audio.

Most DAT recorders provide the ability to record with either a 44.1 or 48 kHz sampling rate. This uses 16-bit linear encoding and provides up to 120 minutes of continuous stereo recording with a frequency response of 2-22 kHz. Some recorders also include a 32 kHz, 12-bit non-linear encoding mode. This provides up to 240 minutes of stereo recording, with a frequency response of 2 - 14.5 kHz. In addition to sound data, DAT also includes the capability of recording subcode information such as absolute time, track numbers and end-of-tape markers. One of the main advantages of DAT is its ability to generate exact duplicate, multi-generation copies. However, to deter music piracy, most DAT recorders conform to the SCMS (Serial Copy Management System) scheme.



in the SoundLab directory, so that you can view them in detail. Figure 1 shows the original source CD audio frequencies. Figure 2 is the DAT recording. Figure 3 is the Mini Disc version from the digital input and Figure 4 is the Mini Disc recording from the analogue input. These show that the DAT does a good job but doesn't exactly match the CD source (which doesn't really add up as they were both transfered digitally at 44.1kHz). Even so it's as good as perfect. The Mini Disc digital recording discards a lot of information above 19kHz (due to its compression system and this is also apparent in the analogue Mini Disc recording. It is important to remember that the recording level had to be set manually and could account for changes in the overall amplitude of this recording. Seeing may be believing, but hearing is something else in this test. I listened to all of the recordings numerous times (using high quality headphones) and although I could see the difference in the graphs, to be honest, I really could not hear anything significantly different. Even comparing the analogue and digital recordings of Mini Disc and of DAT I could not detect any really obvious differences.

Figure 5 shows a graph of the 20 Hz-20 kHz sine wave sweep source. When compared to graphs from recordings onMini Discand DAT, I found that they were nearly identical. Strangely,Mini Disc did not exhibit the same cutoff as with the musical tests. This has to do with the way that these audio data compression algorithms work. If there is sufficient space to record the full frequency spectrum,Mini Disc will generate a more accurate frequency response. This can be seen in Figure 3 (around the 0.06 and 3.75 second points) where frequencies momentarily jump to full spectrum. However, the range of frequencies present in most music recordings requires high end frequency filtering in order to encode the more important lower frequencies.

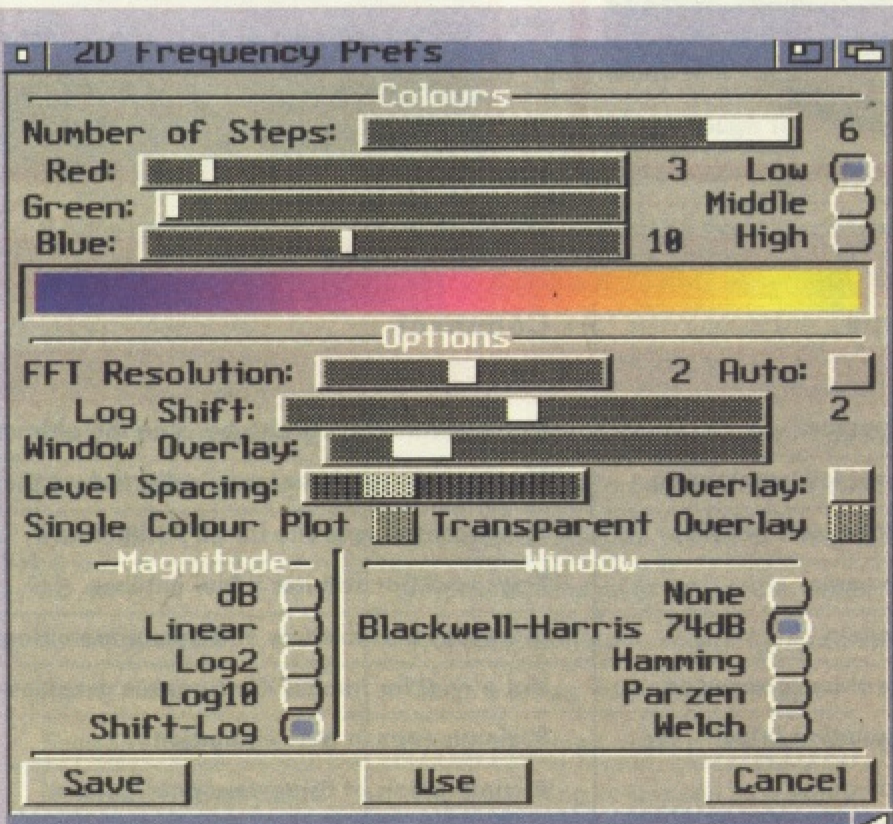
The verdict

DAT clearly provides better sound quality thanMini Disc; and when you compare the graphs, it is easy to see the difference. The real test though is not one of comparison; because in the end you will, in all likelihood, be distributing your recordings on CD or analogue cassette. The majority of listeners will never be able to tell what kind of machine you used to master. It is only important whether or not the recorder you use creates a good reproduction of what you are recording. Mini Disc offers many advantages over DAT, primarily in its editing and fast access capabilities. From a physical point of view,Mini Disc stands proud with practically unlimited re-recordability and durability. Tape is inherently more fragile than disc, suffering from the possibility of degradation over time and entanglement or breakage. The recording media for DAT andMini Disc are equally priced, but that is not true of the recorders. Expect to pay twice as much for a DAT recorder than a Mini Disc recorder.

I recently sold a highly-acclaimed Teac DA-P20 portable DAT recorder and replaced it with the super-small and efficient Sony MZ-R50Mini Disc Walkman equipped with a Sony ECM-DS70P stereo microphone. I use it extensively in the field to capture live sound. Also, its auto-date/time feature is perfect for keeping an audio diary or just taking notes. Now, if only the Amiga had some good speech recognition software! For final mastering though, I will continue to use DAT... at least, because I have that option.

Thanks to The Sony Store for their assistance in providing test equipment for this article. ■

Dhomas Trenn



Frequency graphs

A frequency graph (or sonogram) depicts sound through time on the X-Axis with frequency on the Y-Axis and amplitude denoted by color. These graphs (only on the cover CD due to space constraints) are created through a mathematical process called Fast Fourier Transform (FFT) and are very useful in analyzing frequency response.

SCMS

The Serial Copy Management System (SCMS) was developed to reduce illegal copying/distribution of commercial audio recordings. In systems with SCMS implementation you can record from a 44.1 kHz digital source (such as CD) via a digital input; however, you can not re-record that copy to another digital recorder through its digital input. At 32 or 48 kHz, you can record a source (such as DAT) digitally (first generation) and then re-record that copy (second generation); however, subsequent digital copies from that second generation copy are not possible.

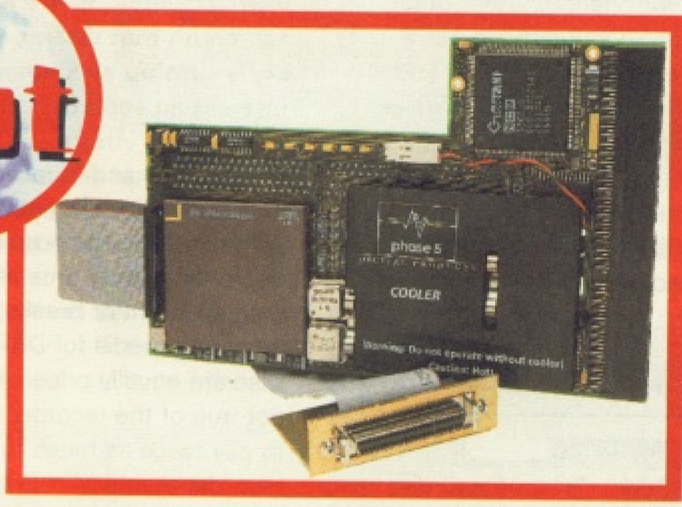
Some older SCMS implementations will not allow second generation digital copies at any data rate. analogue recordings are not restricted. Many professional level digital recorders are exempt from SCMS or at least provide a way to disable the protection scheme.

If a recorder insists on using SCMS and it is a real problem for you, do not dismay, there are ways to defeat it. Try an internet search on that device, it will likely turn up all kinds of interesting secrets.

Reviews Index

Our Reviews Index now contains a summary of product reviews from the previous four issues of CU Amiga, sorted by issue and then alphabetically. We hope you will find this easy to use. Also on this page is the CU Amiga editorial team's list of 'hot' recommendations. If you don't own any of these products, do yourself a favour and buy one of them immediately. If you have any comments or suggestions about this page, please contact us. ★ Indicates a Superstar award winnner.





Hot Products

Title	Comment
Aminet Sets	The must-have shareware archive
Draw Studio	Amiga's best structured art/illustration package
Elastic Dreams	Swirly picture manipulation hi-jinks
Epson Stylus Photo	For photo-realistic hardcopy
Foundation	Ultra-detailed God game
Genetic Species	A damn fine game
ImageFX 3.0	THE professional image processing software
Miami 3.0	Makes jacking into the 'net so easy
OctaMED SoundStudio	What? Still using Octamed 6? Get this now!
Opus Magellan	We love this Workbench replacement
Pace 56K Voice Modem	The Rolls Royce of modems
Pagestream 3.3	You want to lay out pages? Look no further
phase 5 PowerUp cards	Super-fast PowerPC accelerators
Power Scan Magic	Throw away that Microvitec monitor
Power Tower	The best place to re-house your 1200
PPaint 7.1	The best pixel paint package on any platform
Quake	Another damn fine game
Siamese RTG	Splice your PC to your Amiga
SoundProbe 2.0	Truly awesome sample manipulation package
TurboPrint 6	Must-have print enhancement package
VoyagerNG 2.95	Surf the web in style
Wizard Mouse	The rodent of choice in the CU offices
Wordworth 7	The top digital quill on the Amiga
CU Amiga Magazine	Of course

Reviews Index

Title	Type	Comment	Score	
May 98				
ADescent	3D game	Good but needs work to become the ultimate Descent	82%	
ArtStudio Pro	Graphics (cataloguer)	Under-delivers on features, pales before the competition	69%	
Blizzard PPC 040/603	Accelerator (A1200)	The essential upgrade for all A1200 users	94%	★
Descent	3D game	Plays well but still has a few glitches	80%	
Dynamode Modem	Modem	Speed is what matters and this modem doesn't deliver	75%	
Elastic Dreams	Graphics (processor)	Not a rival for ImageFX but makes graphics great fun	82%	
Fusion 3.1	Emulation (Mac)	Fusion is tops in Mac emulation	92%	★
Kids Rule OK II	Kids game	A compilation of three very poor games	40%	
Pace 56 Modem	Modem	A high quality modem	92%	★
Picture Manager Pro 5	Graphics (cataloguer)	Impressive as a cataloguer and an image processor	90%	★

Title	Type	Comment	Score
May 98 continued...			
Playdays	Kids game	Too much work and too little fun	75%
Playdays Paint	Kids game	Great fun for kids – highly recommended	92%
Wordworth 7	Word processor	Simply brilliant	93%
June 98			
AWeb-II 3.0	Comms (browser)	The first Amiga browser with Javascript	90%
ImageFX 3.0	Graphics (paint/process)	The best image processor goes from strength to strength	95%
Malice (for Quake)	3D game	Utterly brilliant, worth buying quake for alone	95%
MasterISO V2	CD-RW software	A great all round package	88%
Micronik External Scan Doubler	Scan Doubler	Well deserving of the Boing Ball	93%
Micronik Internal Scan Doubler	Scan Doubler	An inexpensive route to a high quality display	88%
Power Digital Camera	Digital Camera	Easy to use, fun, and cheap – but results don't impress	81%
Quake	3D game	The ultimate in atmospheric shoot'em up action	95%
Sirius Genlock	Genlock	Superlative video output – at a price	90%
The Labyrinth of Time	Adventure game	Some design flaws, but an engaging game nonetheless	78%
Turboprint 6	Printer drivers	An essential companion to any modern printer	93%
TV-Amazing	TV Tuner	Good, but not ideally suited for Amiga use	75%
July 98			
Amiga Forever	Amiga Emulator	Very workable Amiga emulation	87%
Aminet 24	Various	The latest downloads from the 'net	89%
Aminet Set 6	Various	A gargantuan collection of software	90%
Eyetech single-slot Zorro	Expansion (A1200)	Functional, but inelegant and expensive	78%
EZ-PC Tower	Tower system	An excellent, all-in-one Siamese system	89%
Flyin' High Patch/Data Disk	Racing game	Bug fixes and extra courses to make Flyin' High playable	74%
Pyromania	DTV (clips)	A great package for professional DTV	92%
Quake: Mission Pack 1	3D game	A great way to get more out of Quake	87%
Shrak for Quake	3D game	Probably one of the finest add-ons for Quake	88%
Tornado 3D	Graphics (3D)	Flawed, but exciting enough to risk	87%
Virtual Karting 2	Racing game	A sequel that should never have happened	40%
Wheels On Fire	Racing game	A fun game, marred by system unfriendliness	50%
Yamaha MU10	Sound card (MIDI)	Good, but not as flexible as a proper sound card	85%
August 98			
Catweasel Mk II	Floppy drive interface	The best way to improve your floppy capabilities	89%
Eyetech CDPlus SE	CD-ROM drive	No excuse not to buy a CD-ROM drive now	90%
Foundation	God game	A superstar despite the flaws – and it's getting better	90%
Genetic Species	3D game	A great synthesis of adventure, suspense and blasting	94%
Samplitude Opus	Audio package	The best hard drive recording and editing system	86%
Scan Magic	Scan Doubler	Gives a cheap, high quality display	90%
Scan Magic (with flicker fixer)	Scan Doubler	The best Amiga display this side of a graphics card	92%
Siamese V2.1	Network/RTG package	The best thing to happen to a PC	94%
SoundProbe 2.0	Audio package	An essential piece of software for anyone into sampling	92%
VDC200p	Digital camera	Good package with acceptable output and a great price	86%

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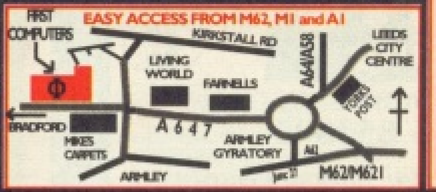
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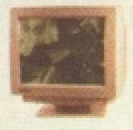
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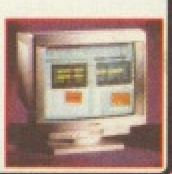
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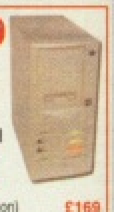


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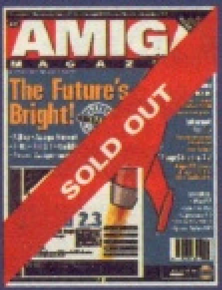
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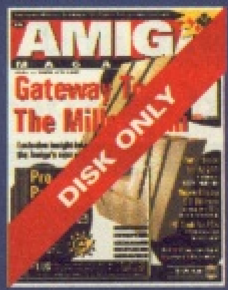
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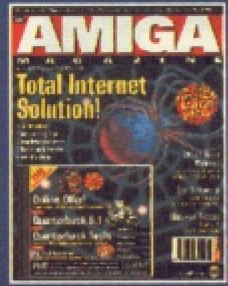
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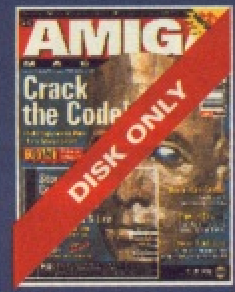
MAY 1997
Disks: Image Studio (full program) Kargon RPG, exclusive clipart on CD
Features: The Future's Bright: Gateway buys Amiga! Tower Amiga Part 2.
Inside: PageStream 3.2, Big Red Adventure, LightWave 5, Epson Stylus 600...



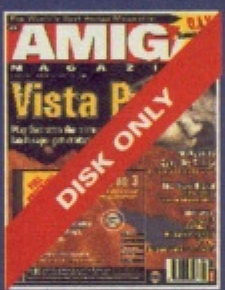
JUNE 1997
Disks: Pro Page 4.1 (full program) MPEGA 2.4, Sysinspector, The Sun game & more!
Features: CD-R for Amiga – cut your own CDs for a few hundred pounds plus Tower Amiga Part 3: Zorro.
Inside: Turbo Print 5, Net Connect, Cybervision...



JULY 1997
Disks: Free Net software, Quarterback 6.1 inc QB tools, Big Red Adventure
Features: Total Internet Solution, the history of the Amiga & a look at Amiga artist, Eric Schwartz.
Inside: Final Writer '97, Siamese RTG 2.0, Burn It...



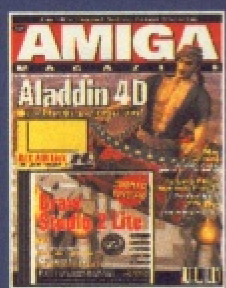
AUGUST 1997
Disks: Dogfight, Turbo Print 5 Lite, Storm C Compiler
Features: Power PC is coming, Crack the Code, plus Power Gaming
Inside: Cinema 4D, Voyager NG 2.90, IBrowse 1.12 & Tower add-ons...



SEPTEMBER 1997
Disks: Sixth Sense Investigations, Vista Pro, MakePath, GeoMorph
Features: New Faces of Amiga Gaming, Amiga: The Next Generation, DIY Sound Card
Inside: Art Affect 2, Art Studio 2.5, Micronik gen-locks, Flying High



OCTOBER 1997
Disks: TFX, TB 303 Emulator, Virus Z, Video Easel, Visual Prefs
Features: TFX: Quickstart Guide/Techniques & Tips etc., Suzanne: The Portable Amiga
Inside: Fusion Mac Emulator, Civilization, Mk II EZ Tower, Storm C



NOVEMBER 1997
Disks: Draw Studio 2 Lite, AIR Link Software
Features: D.I.Y. AIR Link, Aladdin 4D V5.0, Hydra A1200 Ethernet, Sensible Golf
Inside: Epson Stylus Photo, OxyPatcher, More TFX Tips, Visual IFX, Envoy 2.0,



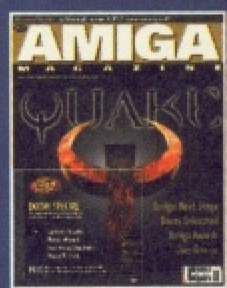
DECEMBER 1997
Disks: PC Task 3.1, Dir Work 2.1, Workbench enhancements; icons, backdrops etc.
Features: Myst, PowerUP: First look, ISDN: The Net on speed
Inside: Imaginex, HiSoft Squirrel CD-R, Sharp MD-MS200 Minidisc



JANUARY 1998
Disks: PPaint 6.6, Trapped 3 Demo, Sound Samples. CD Demos; Sound Probe, Foundation
Features: 1997 Review, Workbench 2000, Remixing with the Pros
Inside: Cyberstorm PPc, Picture Manager Pro, Appollo 630, Uropa 2



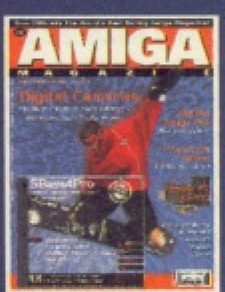
FEBRUARY 1998
Disks: SCALA MM300, Sword Demo, 600 Mb of Tools, Mods, Graphics
Features: Amiga Forever Emulator, The Big Switch (PowerPC), CDDA Mixer
Inside: Apple II Emulator, Distant Suns CD, Power Tower, Input Devices Round-Up



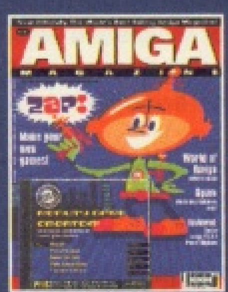
MARCH 1998
Disks: Doom, NetPBM, Cartoon Studio, AmIRC, VirusChecker III
Features: Amiga: Next Generation, Stars of '97, Quake
Inside: TurboCalc, HiSoft C++, WebFTP, Pagestream 3.3, Ultimate Super Skidmarks



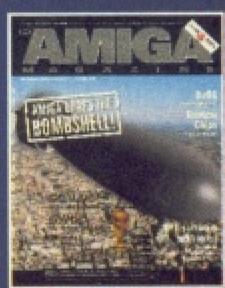
APRIL 1998
Disks: Shapeshifter, Mac Emulator, PowerPC Doom, New SoundTrackers
Features: Take it to the Macs, Millennium Bug, PowerPC Update, PowerPC Winners
Inside: X-DVE 3.01, Siamese RTG, Doom Level Round-Up, Font Machine



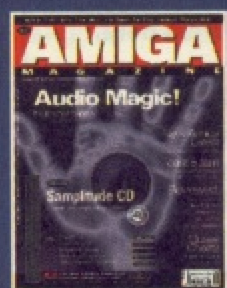
MAY 1998
Disks: Interactive Fiction, Quake Demo, SBase4Pro, PowerPC Software
Features: The Big Amiga Poll, Digital Cameras, Interactive Fiction
Inside: Blizzard PPC Card, Elastic Dreams, Fusion 3.1, Wordworth 7, Picture Manager Pro



JUNE 1998
Disks: Reality Game Creator, Web FX, ADoom, PlayMF, Petro Speech
Features: Game Creation, Spam, World of Amiga Show Guide
Inside: Image FX 3.0, Turbo Print 6, Scan Doublers, Sirius Genlock, AWeb, Master ISO



JULY 1998
Disks: Scalos, Sensible World of Soccer, Art Pro, Doom Editors
Features: BeOS: Son of AmigaOS?, Multimedia Processors, Software Publishing
Inside: Tornado 3D, Quake Add-ons, Yamaha MU10, Amiga Forever, EZ-PC Tower



AUGUST 1998
Disks: Samplitude CD, Sound Probe 2 Demo, AmigaAMP, ToolManager
Features: Video Toaster, Confused? You won't be, Audio Magic
Inside: Eyetech CDPlus, VDC200p Digicam, Siamese V2.1, Catweasel MkII, Scan Magic, Quake Cheats

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Apollo, Quake and overclocking

HARDWARE

I have been playing Quake quite a lot recently. It's a great game, but on my system – an A1200 with an Apollo 1240/33MHz and 16MB RAM – the game is just playable.

1. If I installed Oxypatcher, would it help to speed the game up?

2. Would more RAM make the game faster?

3. I remember reading a post in an Amiga news group that somebody had clocked their 1240/33 up to 40MHz by changing the crystal. Is this possible? And if so, how do you do it and where could I purchase a suitable crystal?

Stephen Bucknall,
Calthwaite, Cumbria.

1. The 68040's internal floating point unit is much faster than the original external FPUs due to its parallel operation and instruction pipelining. However, only a restricted instruction set is implemented (e.g., it has no trigonometric functions). When a 68040 tries to execute a floating point instruction which is not available in hardware, an exception occurs and the instruction is emulated by software (in the 68040.library). This exception involves a considerable overhead – flushing the FPU pipelines, etc – and so is inefficient.

OxyPatcher tries to speed up this process. It translates or patches all the unimplemented instructions in a program as that program is loaded, so involves less of a run-time overhead. (It performs various integer optimizations as well.) Depending on the type of software being used, Oxypatcher can improve speeds up to about 2 or 3 times.

In theory, Oxypatcher should speed up Quake. In practice, though, the benefits are only about 5 to 10%.

2. Extra memory above 16MB will not make much difference. You could use it for extra disk buffers, though, to improve disk access times while loading levels, etc.

3. Yes, it is possible. To overclock an Apollo '040/33 board to 40MHz is a simple job of unplugging the 66MHz oscillator and plugging in an 80MHz one. (The oscillator needs to be double the desired clock frequency for '040 boards.) Overclocking processors by 30% is safe, but you will need a fan and heatsink to dissipate the extra heat produced. The main problem is where to find a 80MHz crystal in the first place: for example, Maplin's sell oscillators only up to 64MHz. Probably the easiest way is to get one from an old PC, say a 40MHz 386. However, there is a UK-based company called OnSpec Oscillators that make oscillators to order and who do sell to individual customers. Their prices are high to reflect this: they will build you an 80MHz crystal for £10.30 plus VAT and p&p. OnSpec can be contacted at +44 (0)1203 642024 and their web-site is at http://www.onspec.co.uk. (To overclock an Apollo 040 to 40MHz you will require a standard TTL oscillator at 80MHz in a 14-DIL type case.)



▲ Amiga Quake – but gimme some speed!

Checksum errors

HELP

I'll get straight to the point: checksum errors. I have a basic A1200 set-up, but a large number of my floppy disks are suffering from checksum errors. So could you please tell me:

1. What is a checksum error?
2. Why are they caused?
3. What can I do about them?

Thanks for any help you can give.

Riccardo Margiotta, Edinburgh.

1. Checksums are used as a method of error detection (and sometimes correction). In this

particular case it is to ensure that the data read from a particular floppy disk is the same as what is actually supposed to be stored on it.

2. Wear and tear and the law entropy: disks and disk drives degrade with use (eventually).

3. Handle your disks with care: store them in a dry place, keep them away from magnetic fields (e.g., loudspeakers), and do not eject a disk while the computer is accessing it. Make back-up copies of important disks. If you really need the data on a corrupt disk you could try using a program like DiskSalv, which in some cases can repair or salvage data from damaged disks.

Zip booting?

I use a Zip drive in lieu of a hard drive. I have created one partition on the Zip, as advised in HiSoft's manual, and have installed all my OS disks to it. However, I still get requesters asking me to put Workbench in any drive when installing or trying to use programs that require items, such as MultiView, IconX or Installer, for example. The problem seems to arise when I include the CD boot software on the disk. CDs boot up fine, but can't find Workbench. I would have thought that the SCSI boot disk in DF0: would have re-directed anything to the Zip drive installation. All the things that are required are present, it just doesn't know it's there. Do I need to write an assign? If so, how? Finally should I just buy a hard drive (which I had hoped to avoid), put the Workbench on that and all other programs on the Zip disks and save sore eyes and more hair loss.

C. Kerrigan, Sageside, Staffordshire.

I think you would save yourself a lot of trouble by just buying a hard drive. Do you not find the 100MB capacity of a Zip drive rather restrictive, too?

Anyway, the easiest way to boot from a Zip disk is to install a bootable RDB (Rigid Disk Block) to a partition. However, this will not work in your case, since the Squirrel device driver is not in ROM but needs to be loaded from disk. Your boot floppy, therefore, will need to mount your Zip drive then transfer control to the Zip and execute its startup sequence. One way to do this would be to install a startup-sequence something like the one below onto your boot floppy and put a normal startup on your Zip disk. Doing it this way also has the benefit of faster booting. The following assumes that your Zip disk is called ZipWB.

```
;Boot floppy startup-sequence
Resident C:Assign
Assign ENV: RAM:
SquirrelSCSI >NIL: MOUNT
Assign SYS: ZipWB:
Assign C: SYS:c
Assign DEVS: SYS:devs
Assign L: SYS:l
Assign LIBS: SYS:libs
Assign S: SYS:s
Assign ENVARC: SYS:Prefs/Env-Archive
Resident Assign REMOVE
CD SYS:
Run >NIL: Execute S:startup-sequence
EndCLI >NIL:
```

Amiga DVD?

You published a small news article about a DVD player a couple of months back. I have seen some DVD drives and they are quite impressive! What I want to know is how to connect one of these systems to the Amiga? The PC has a board to decode the data from the drive. Will it be necessary for the Amiga to have one of these, or will the drive have its own decoder?

Adam Lowton,
Cape Town, South Africa

It is possible to buy, now, a DVD player which will allow you to watch DVD movies. This is a stand-alone unit which plugs into your TV and resembles a cross between a CD player and a VCR. They are still rather expensive. In the UK, DVD players retail from about £500. They also allow you to play audio CDs and photo CDs and some models even play LaserDiscs. And, yes, they are quite impressive.

A DVD-ROM drive is basically a high-capacity CD-ROM drive – employing the DVD technology for use with a computer. They come in SCSI and ATAPI flavours just like CD drives do, and like the DVD players allow you to use CDs as well. Lower end drives can be bought for about £100. With PCs they are usually shipped with an MPEG decoder card so that you can use them to watch DVD videos. While in theory you could connect one to your Amiga, it would be a bit pointless at the moment, though. Given there is no software support, no filing system, nor even any Amiga DVD disks – why bother? Besides, even an 060 processor is not up to the job of spooling and decoding full-screen MPEG stream

As far as the Amiga is concerned, the best policy is to wait and see. (Feel free to buy a player, though.) The fabled Amiga II – or whatever it is to be called – will probably ship with a DVD drive.

Obviously confused reader

Dear questions and answers.

I like your show and I want to know: what is the astronomy and astrology ?

Pieter Engelbrecht,
Oudtshoorn, South Africa.

I beg your pardon?

Low budget programming

At the WOA show I purchased Paul Overaa's book Amiga Assembler and was wondering what, if any, PD assemblers there are available for the Amiga. Also, are there are any C compilers, too. I have recently taken up the idea of programming because I want to try and support the Amiga as a sort of thank you for its years of use.

As for the WOA, I really enjoyed it (except maybe the dancing) and was sorry that I could not buy more, being currently unemployed! Small rant: How is it possible that people still get pirate software. I can't believe it, I mean I picked up Slamtilt for £3. True – there's no box, but part of the fun is figuring out what the hell it's all about, you know? I think these pirates should be shot.

Anyway. For games programming should I continue with Assembler or C. What with the PPC and all, I am rather unsure which I should focus on.

Keep up the good work and best of luck to Amiga.

Peter Foreman,
via e-mail.

There are many different program-ming environments available in the public domain. The main problem tends to be that these systems are not very beginner friendly. Also, to program the Amiga's operating system, you will need to obtain the Amiga Native Developer Kit – which is not freely distributable. It can be purchased as part of the Amiga Developers CD.

If you look in the directory dev/asm on the Aminet you will find many assemblers and other tools for developing assembly language code on the Amiga. Two systems in particular are noteworthy: A68k, originally by Charlie Gibbs, is a long-standing and respected product; PhxAss by Frank Wille is a very powerful and well-featured assembler.

There are several C free C compilers available to. Matt



▲ Go on! Compile that C code – with GNU C.

Dillon's DICE was for a long time the best shareware C compiler. Alas, it is no longer being developed, but is now freeware. Another choice is the GNU C/C++ system. This is a staggering package, in many ways a lot better than the commercial Amiga compilers. The GNU compiler is a port from the UNIX world and is distributed as part of the Geek's Gadgets CD – which also includes Ada, Java, Fortran and a host of other tools – but is also available on the Aminet in dev/gg. It takes a bit of getting used to but is very powerful and will produce code for just about any processor, including the PowerPC.

As for which language you should learn – C or assembly – it is largely a matter of personal preference. Having said that, I do think that anybody who would try to code a game completely in assembly language is either insane or masochistic. C has a lot more facilities for managing large projects; it is a lot more portable, too. However, assembly is useful for the optimisation of critical routines. Why not learn both? They complement each other well.

With regards to your comments on piracy, I think perhaps you are becoming confused between piracy on the high seas and the illegal distribution of copyrighted material. Capital punishment is a bit harsh!

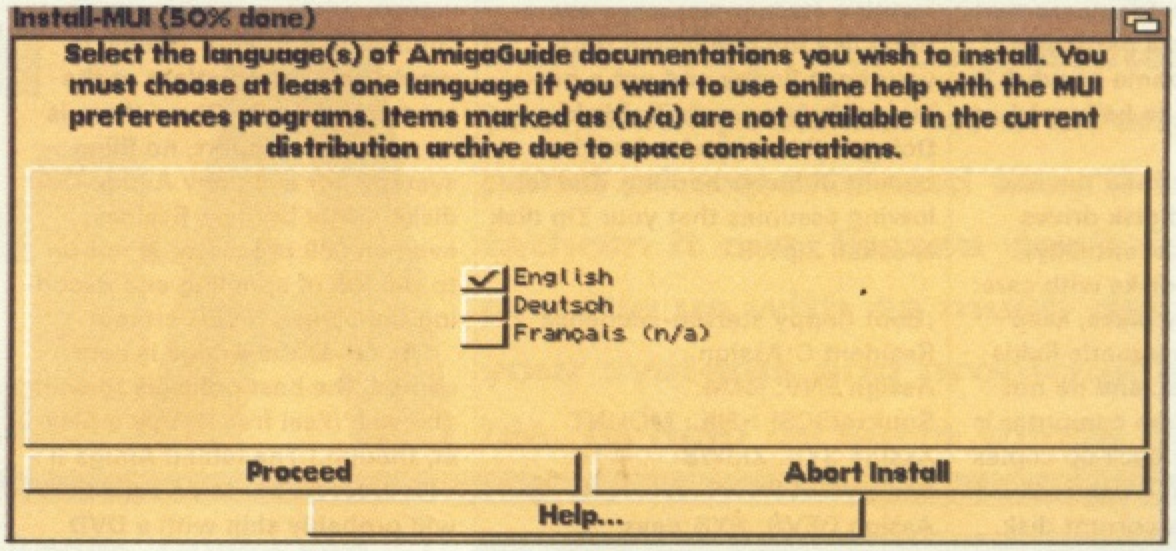
Printer problems

I have just purchased myself an Olivetti JP360 inkjet printer. My main difficulties are that the manual is in French and the installation and driver disks are for the PC. I have searched the internet for drivers but was unsuccessful. I then assumed that it must run under emulation. With the manual being in French I cannot find out if it supports any emulation.

Diana Spalding,
via e-mail.

Because Olivetti no longer manufacture this printer, information regarding it is difficult to find. However, it does appear to support PCL 3 (Hewlett-Packard's printer control language) and take HP ink cartridges. It would be a fair bet that the JP360 is either a re-badged HP DeskJet printer or at least compatible with one. I made this point to Olivetti themselves; but they were far from helpful.

I suggest you try using the HP DeskJet printer driver supplied with Workbench. Or, better still, get and install TurboPrint and use its DeskJet500C driver. TurboPrint will allow you more control, and higher quality printing.



▲ The elusive Installer.

Where's the installer?

Since acquiring my hard drive I've had nothing but problems trying to get programs and games installed. I've got most of this sorted now as I've gained more experience with using my computer. Unfortunately though, I still can't put a lot of stuff on because I haven't got the program (or command) 'Install' present on my hard drive. I have WB 3.0, and never got an install disk. Instead when I bought my hard drive I got an install disk with that – but this doesn't seem to install this command. Is there a disk I can get so I can install this? Or will I have to upgrade to WB 3.1 as I know that version has an install disk with it?

Please help a frustrated Amiga owner before he goes completely mad, as he's missing out on a lot of stuff he wants to use.

Steve Nicoll, Dundee

What you are looking for is the Amiga Technologies Installer Tool, of which V43.3 was the latest. I have included the complete package on this month's CUCD. All you need to do is copy the file 'Installer' to the C directory of your hard drive. If you do not have a CD-ROM drive, the installer package can be found on the Aminet in util/misc. The chances are, though, that you have already got a copy of Installer somewhere. It is distributed with many commercial packages, plus it also appears in the C drawer of our CD-ROM each and every month.

Do not confuse Install with the Installer. Install is an AmigaDOS command which writes a bootblock to floppy disks.

Tech tip

Losing time

This tip was sent in by Christopher Bayliss, Carluke, Lanarkshire. Take it away, Christopher . . .

I had a problem with my A1200/Apollo 1230LC (T) that you might like to know about. My accelerator mounted clock stopped working, so I replaced the battery with a brand new one. I booted my computer and set the clock, but it refused to work. After removing the case and checking the battery was correctly mounted, I turned the computer on and the clock worked. On replacing the case I found that the clock was not working and the clock kept resetting itself to september 1992.

After carefully looking at the casing, I saw some scratches on the side right where the clock battery was. It would appear that the battery's connector was being earthed on the casing. After a generous application of PVC tape to the offending area of the casing, the clock now works perfectly. If I had not noticed this at once I might have gone through several batteries before solving the problem or, even worse, be resigned to life without a clock.

How to write in to Q&A

You can send your queries (or tech tips) to Q&A, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London E14 9TZ or preferably e-mail: q+a@cu-amiga.co.uk. We can accept letters or text files on floppy disk. Please do not send an SAE. WE CANNOT RESPOND DIRECTLY TO QUERIES BY POST OR OVER THE PHONE OR E-MAIL, nor answer every Q&A we are sent. Sorry. We do appreciate that you may have a serious problem and until Amiga International re-open a UK office you may have no-where else to turn, but we get so many questions we simply don't have the time or resources to answer them all.

We always do our best to use letters in Q&A that answer most common problems, so even if your own question is not answered you may find an appropriate solution here.

A to Z

Good old Miggy, of course! In a moment of madness, John Kennedy continues with his mammoth - not monotonous mind you - marathon.

M is for...

Macro
A command, or special key, which is designed to replace or perform more than one operation.

For example, in a Macro Assembler, you can define a piece of code as a "macro", and whenever you use the name of the macro, the code it represents will be substituted in its place.

Magtape
A little-used AmigaDOS command, presumably to do with controlling tape streaming devices.

Makedir
An AmigaDOS command which creates a new directory under which files and other directories can be stored.

It doesn't create an icon thought, and with no .info file you won't see the directory appear on the Workbench unless you use "View All Files". Makedir can create more than one new directory at a time. see the startup-sequence file for an example.

Makelink
A bizarre and largely unnecessary AmigaDOS command which creates a link between a keyword and an executable file. This means you can use the keyword instead of the file name. Why? No idea.

Memacs
An Amiga port of the (once) popular text editor Micro Emacs. Back when most text editing was done using text-only consoles, Emacs was an important program.

It was so configurable it could do anything from word processing to email to program development. However, it's not the easiest program to use and Amiga-specific editors such as Cygnus Ed (CED) or GoldEd are often a much better bet.

Memory
Physical storage for data. Memory consists of electronic gates which store information by either being "on" or "off". By arranging memory in patterns, it's possible to represent binary numbers, and that makes it possible to store programs or data. Each location in a memory chip as an address to reference it.

In ROM (Read Only Memory) the contents are permanent, in RAM (Read Access Memory) the contents are lost when power is removed. The amount of memory is measured in terms of bytes, Kilobytes, and Megabytes.

Menu
An element of a Graphical User Interface, a menu gives the user various options to select with the mouse.

Menus are often called "pop up" or "pull down", if they are only displayed when the user performs an action, such as clicking with the mouse in a menu bar.

Mergemem
A command no longer necessary (or present) in AmigaDOS v2 and up. It tries to configure memory as a continuous block, rather than as two separate sets of addresses.

Message
In a multitasking operating system, the various tasks and the kernel controlling everything need to communicate.

This is done by passing special messages to one another. For example, when you resize a window, the operating system sends a special ICDMP message to the application to tell it that the window has been resized, and that it should redraw the display.

More
This AmigaDOS command will display a plain text file at the Shell prompt. It's more useful than say, Type, because can pause after each screenfull to make it easier to read.

Motherboard
The main circuit board of a computer is called the Motherboard.

The Amiga's motherboard can be removed from its original casing and placed in a new box if necessary. Further expansion cards which are attached to the motherboard are sometimes called "daughterboards".

Mount
An AmigaDOS command which links a new drive into the Amiga File System. Most of the time this command isn't needed, as during boot-up the Amiga should find and mount all available drives.

It might be needed if a device is only initialised after Workbench has loaded, or with some varieties of removable storage.

Mouse
The small box with buttons which is used to select icons, menus and move windows.

The mouse was developed by Xerox's R&D centre at Palo Alto in California, and has revolutionised the way in which people interact with computers. The theory that the number of buttons on a mouse is a measure of the operating systems complexity and power has yet to be fully explored.

Just remember: the Apple only has one button, Windows has two and the Amiga supports three.

Multitasking
The ability to perform many operating at once. The Amiga's operating system using "pre-emptive multitasking" which means a central core, the Exec system, allocates processor time to each running task.

An other type of multitasking called "co-operative" exists, and in this form the tasks themselves share out processing time by passing control to the next in line. This form of multitasking can run into problems if one task crashes, bringing down the entire system.

Multiuser
The ability to allow more than one user to log-in and use the resources of the computer. Unix is the best know multiuser operating system, and its powerful filesystem makes sure files from different users don't interfere with each other.

Windows NT is also a multiuser OS, and with a little help from third party applications, the Amiga can do it too. Multiuser support is important if the computer is connected to the internet and is being used by many people at once.

Mutually Exclusive
If events are "mutually exclusive" then only one can happen at a time: for example, a coin showing heads and tails is mutually exclusive.

In computing, this happens a lot with menu options or buttons in a requestor where only one option can be active. Selecting a new option deactivates the others.

Backchat

Backchat is your chance to let everyone know what you think on any Amiga-related matters. Email your public comments to backchat@cu-amiga.co.uk or send them to the address below.



Mullet media

There is one thing that has been puzzling me for ages. Why on earth do PeeCee users get all the multimedia applications and us poor Amiga users have to do without? I mean, the Amiga can use all of the standard types of picture files, sound files and movie clips. So I ask again, why? Why don't we all get together and get PeeCee application manufacturers to make their software for the Amiga. After all, the Amiga is the best multimedia machine ever! All we have to do is get them to recognise that we are a potential market for this type of software.

It is really easy. Since Amigas can use the same basic CD-ROM format and all the sound files and movie clips, why don't we ask a programmer to create an Amiga executable for that software. Hell, there are enough programmers on the Aminet who would jump at the chance to see the Amiga getting these types of applications. Of course, it would have to be done for free by that programmer as PeeCee companies wouldn't take to it otherwise. All that would have to be done would be to provide an extra executable on the CD for Amigas. The companies could not possibly lose out as they would be on the one CD, so no extra cost to them, and they would still pick up their sales from the PeeCee world.

How could this not work? Well the companies could turn around and say "The Amiga hasn't got Intel Indeo" and they would be right! But the author of CyberAVI and CyberQT could make this happen if we were to raise the $5000 that he needs for the source code. If everyone who reads CU Amiga gave only £1, then that would be over £24,000!

"Why on earth do PeeCee users get all the multimedia applications and us poor Amiga users have to do without?"

Chris McGonagle (Emerald Amiga Users), County Tyrone

While that particular scenario is unlikely to happen in the very near future, your point about persuading multimedia software developers to include the Amiga in their plans is an important one. If Amiga Inc are doing their jobs properly, right now they should be targetting a wide variety of software developers to convince them that the next generation Amiga is going to be the platform that allows their software to shine, the platform that allows them to create the software they've always dreamed of.

With support from the major players (and hopefully some new talent breaking through) alongside those who have stuck with the Amiga, the next generation platform could very quickly become the first choice for creative computer users.

Stab in the back

I agree 100% with phase 5 and Haage & Partner after the World of Amiga show. I am not going to buy an intermediate Amiga running on Intel. The way forward is a PowerPC card for the existing Amiga range without a 68k series processor with AmigaOS running fully on the PowerPC with 68k emulation.

Emulating a 68060 with two processors wouldn't lead to speed loss. Maybe it would be even faster. Amiga International may have decided to use a processor we know nothing about at this point, but the chances are that by the time they want to produce that Amiga, the PowerPC will be as fast and cheap but the difference is that we already have a wide range of PowerPC software. Going the PowerPC way will make a lot of developers and users feel that they are not wasting their time on something which will be surpassed within two years.

This also brings me to the point of ISA and PCI. It's a stab in the back for Amiga developers who stayed with the Amiga. They do their best to produce quality hardware as cheaply as possible only to hear that people want PC ISA and PCI cards. Is this the way we reward them? I'll tell you that if they leave the Amiga is truly dead!

I hope that Amiga Inc approve the phase 5/Haage & Partner concept and dump their Amiga bridge plans. The people who know what they are talking about must be the existing Amiga companies. I have an Amiga because of the way it is now. And I want to keep it the way it is now No Intel solution for me.

Remco Komduur, Ter Apel, Holland

When it comes to expansion cards, surely it's best to move to a standard interface? An Amiga with ISA expansion slots is not the same as a Wintel PC.

A to Z

I noticed in July's A to Z column that a Kilobyte was 1024 bytes, and that "these days thousands of kilobytes (ie megabytes) are required just to boot up a computer" etc. I'd just like to point out that a proper computer (ie an Amiga) only needs a few hundred of these kilobytes to boot up! And when it does boot up, it does it properly, no faffing about trying to find the mouse, keyboard



▲ Can Haage and Partner successfully join forces with phase 5 to make PowerPC Amigas an attractive option?

driver or monitor etc! Hmmmmm...!

Alastair Basden, via email

Quite right and well spotted, although Mat Bettinson's legendary Amiga "Bitch" wouldn't get out of bed for less than 10MB, and nor does its successor "Carcass", which doesn't actually get out of bed at all at the moment, but that's another story.

Out on a limb

I use a PC at work because I have to. That's an interesting statement because it indicates dis-satisfaction at having to use a PC. Three or four years ago this would have been a valid concern; now, though, I feel the quality and features available with Wintel machines and software are second to none.

I use CAD and frankly would not be able to do what I do on an Amiga, (much as I would like to say that I could), for the same cost. The price drop in the PC market has been so severe that I do not think a new Amiga can be competitive. Two years ago I upgraded my A1200 with a Blizzard 1260/50. If I had the same choice now I would probably choose a PC.

At home I use my Amiga for video titling. If I wanted to perform non-liner editing I would have to spend a small fortune (tower conversion, graphics card etc), and still have an out of date OS which isn't even millennium compliant. A suitable PC (P2 300MHz with graphics card and video editing software), would probably cost around £1000 and definitely be much faster than my '060 Amiga.

If the new owners of the Amiga are able to coax an Intel machine to run OS4 as your article last month seemed to indicate, why not develop OS4 for that machine and forget the custom chip/architecture route?

After all, the revolutionary new processor discussed cannot be as low cost as has been speculated. How will the manufacturer recoup the development costs? Look at the pricing at the high end of the Motorola 68k series for evidence. Add to that the low initial demand as a consequence of the "Upgrade or die" philosophy – so many will have upgraded that they won't wish to upgrade again so soon. The PPC route looked very promising until last month's announcement, which can only leave the Amiga's remaining developers fragmented and out on a limb after so many initial promising noises from the owners of Amiga.

Which brings me to my final point. You, as the foremost Amiga magazine in the UK, claim to champion the cause of the Amiga. I can now only obtain my copy of CU Amiga from Asda due to the fact that my local newsagents cannot return unsold copies and are unwilling to risk being left with any on the shelves (I'm sure it won't be long before Asda goes the same way). This only leaves one Amiga magazine on display in most shops – if they decide to do the same, the name 'Amiga' will disappear from view and be less likely to attract new interest. How can this be good for the Amiga?

"The revolutionary new processor discussed cannot be as low cost as speculated. How will the manufacturer recoup the development cost? "

Yes, I'd love to see a new Amiga and to see it do well. However, I think technology has moved on so far, and prices of alternatives have dropped so low, that our beloved Amiga may not be able to rise from the ashes.

Steve Eckersley, Teesside

Where do we start with this one? CAD: OK, life is definitely easier in the CAD business if you use a PC (AutoCAD for example) but we know from personal experience that an excellent professional CAD system can be run from an Amiga. As for non-linear video editing, have you ever heard of V-Lab motion? Clearly not – maybe you should consider a Toaster. And what kind of Amiga are you comparing to this £1,000 PC? Obviously if you have an Amiga with no Zorro slots you can't expect to do all the high end jobs.

Next, we'll say once again, THE NEXT GENERATION AMIGA IS NOT BASED ON A PC. Did you hear that? The PC thing is just a developer's tool which emulates the real next generation machine. Its purpose is to ensure that there is software for the new hardware and OS5 when it's released. See the August 98 issue of CU Amiga for more on that one.

How do you know the new processor will not be cheap enough? You don't. That's 100% guesswork as neither you nor we know anything much about where it's coming from. The PPC thing is disappointing but will probably pan out into something with a bright future very soon.

Finally, as for you not being able to find CU Amiga in your local newsagent, we can appologise, but at the end of the day this is just down to commercial pressures which affect all (both) Amiga mags on sale in the UK. It would indeed be a great shame if the Amiga name was to disappear completely from newsagent shelves, but that's not going to happen, at least for the forseeable future

Laugh now

Feel free to laugh if you like... With all this talk of phase 5 and their PowerUP project how about them or someone else building a PowerUP card for the CD32 that would be something in the "style" of Eyetech's SX-32 upgrades? It could have some specs like 040/060 and PowerPC, memory, IDE interface (internal), RGB, floppy on the outside plus maybe some sort of external SCSI interface and of course a beefier power supply to drive the whole thing.

Even though the CD32 is an old thing (so is the A1200) it seems to me like a reasonable upgrade for it, even though it would no doubt cost silly money it might be worth a try. Bundled with a keyboard and ready-installed hard drive it would be quite a canny small box computer/multimedia thing.

I appreciate that it would be some damn hard work for someone, but what the hell, life would be no fun if it was too easy. Anyway, thanks for the time folks, and keep up the good work!

Robert Hill, Durham

You could try to squeeze all of that into a CD32 expansion and end up with something that cannot be taken any further (all that power and no Zorro slots?), or you could just make life a lot easier (but just as much fun) and base an Amiga tower on an A1200. Nice idea though... Actually, no, it was a bad idea from the start, but thanks anyway.

Swirly things

I'd just like to agree with one of Torgeir Amundsen's points in the August issue Backchat. Demos don't get the exposure they deserve and seem to be swept under the carpet by established Amiga magazines such as yourselves. Some of the biggest innovations come from the demo scene and I think you should give it more respect instead of just refering to all demos as "swirly things" as if you don't really want to talk about them.

Petter Hårelssen, via email

Watch out for a focus on the demo scene coming next month.

It's quite simple

I take it we're all disappointed that Amiga Inc dropped the anticlimax bombshell. It reminds me of an episode of Star Trek: TNG where Cmdr Shelby told the Enterprise that the new anti-Borg weaponary would take a lot longer that expected, by which time it may be too late. When asked exactly how long, Cmdr Shelby replied "That's the problem... twelve to eighteen months". Sound familiar?

While Amiga Inc sit on their arse, planning out some new Super Amiga and getting paid for it, shouldn't we just sort it out for ourselves – like we've been doing anyway for the past four years? In the words of one of CU's old cover disk tunes, "it's really quite simple".

Eyetech, Power Computing, MicroniK and phase 5 start selling Amigas in high street shops, especially leading PC stores. CU Amiga put together a new AmigaOS, with help from existing software programmers and Amiga user groups like Combat 14, and release it on floppy disk which needs to be installed to hard drive to be of any use. Also make an extra CD version which contains extra quintessential software. Bundle it with every new Amiga.

The Amiga needs a focal point, and CU Amiga is it. We need a bit of advertising somewhere other than in an Amiga magazine where only existing Amiga users are going to see it – I mean in the Times Interface section, billboards, TV and radio – proclaiming the Amiga Definitely Back For The Future!

PS. If anyone has a spare modem, even an internal PC one, please send it to me. I'm dying to get an email address so that I can get seriously involved in the future of the Amiga!

Jonny Drain, Combat 14 User Group, 2 Glendowan Grove Belfast, BT17 OXE

Action from all corners is definitely required as you say, although it's only to be expected that Amiga Inc are sitting "on their arse, planning out some new Super Amiga and getting paid for it". Would you prefer they did it for free, standing on their heads? By the way, are you aware of the unfortunate similarities of your user group's name and that of a ultra right wing group Comat 18? Just thought we'd mention it as it might give the wrong impression.

Towered by Amiga

Having read the various articles on how to tower an A1200 and the excellent reviews of the current custom towers, plus the renewed feeling of optimism for the future of the Amiga, I was so fired up with enthusiasm that I took my hammer in hand and smashed my piggy bank. I spent my life savings on a second hand A1200, Power Tower, hard drive, CD drive and Apollo 1230 accelerator. It may not be cutting edge technology but it is far superior to my faithful old A500+ with 2MB. The Power Tower is as good as your review said it was and it only took about three hours to have the system up and running.

Unfortunately I have since struck two problems. The first is my son. Now that I have an all singing all dancing A1200 Tower, he has abandoned his PlayStation and I can't get near my new computer. An additional side affect to this is that my hard drive is mysteriously filling up with games.

These things I can live with but the most disappointing problem of all came when I rushed out to buy the July issue with the promised sticker, which I was going to use to finish off my tower with a smart logo. When I got it home there was no sticker inside as promised. Someone had nicked it. Is there a thriving black market in Powered by Amiga stickers? Maybe this is a good sign for the revival of Amiga. Keep up the good work. I do enjoy the mag, especially now that I can use the CDs.

Angus Blair, Ayrshire

Your sticker is in the post. We've included an extra one for you to plaster on your son's PlayStation.

Stop the press!

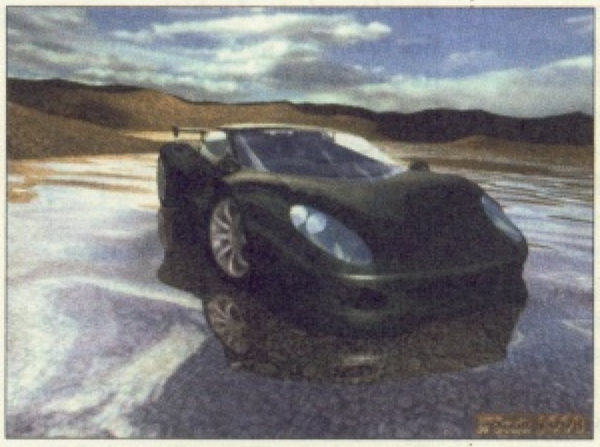
I went looking through my old mags and found a pull-out called "101 things you did not know about video games". In it, I found something interesting that said "A 64-bit Amiga has been developed, but it may never see the light of day, since Commodore went into receivership in 1994". I would like to know about this Amiga. What was it going to be?

Paul Greatorex, East Yorkshire

Who knows what it was you read... it might have been something about the Walker (CU Amiga May 1996), although where the bit about it being 64-bit comes from is anyone's guess. Whatever it was, it's irrelevant now. Take a look at this month's forward looking feature on the next generation Amiga, based on real info from Amiga Inc.

Maxon wave goodbye

If you go to http://www.maxon.de (news pages), you will see that Maxon have now officially and completely dropped support for the Amiga, with a statement which ends: "We say goodbye and send out best wishes to you for the future – 11/6/98".


▲ Maxxon's Cinema4D, recently dropped by Maxxon

Although it has been on the cards for a while, it still comes as a shock to actually see it printed in black and white. It is even more disturbing when you consider that HiSoft are still selling v4 of Maxon's Cinema4D without any mention of the fact that its a dead-end product.

Maxon claim that their reason for bugging out is that the necessary development tools are not available, saying "Without an object-oriented programming language like C++ a useful port is not possible." But hang on, wasn't HiSoft C++ originally a Maxon product? Isn't Cinema4D coded in C++? Couldn't Maxon simply have created the necessary development tools?

The (commercial) developer list is shrinking rapidly, with no end in sight, and only a vague and ambiguous statement from Amiga Inc regarding the future to keep us going.

This news combined with the WOA statement which effectively killed any real future PPC development, is enough to make even more Amigans think about abandoning the platform.

The Turnermator, via email

It does seem like a poor excuse and probably isn't the real reason. You're right, something must be done by Amiga Inc to spread the word about their plans for the future if they are to retain any substantial support and commitment from the current Amiga community. Expecting word to get around 'on the grapevine' won't be enough.

Gates gag

Tony Bullock of Emailsville passed us this month's Gates gag. Let us know if you've got a better one.

There are three engineers in a car: an electrical engineer, a chemical engineer, and a Microsoft engineer. Suddenly the car just stops by the side of the road, and the three engineers look at each other wondering what could be wrong.

The electrical engineer suggests stripping down the electrics of the car and trying to trace where a fault might have occured.

The chemical engineer, not knowing much about cars, suggests that maybe the fuel is becoming emulsified and getting blocked somewhere.

Then, the Microsoft engineer, not knowing much about anything, comes up with a suggestion. "Why don't we close all the windows, get out, get back in, open the windows again, any maybe then it'll work?"

To the Point...

Korny's barber

Where does Andy Korn get his hair cut? How about a Dex & Jonesey column? What about a feature on Petro (God!)? How much do you think the A5000 will be roughly (£500-600 or £700-£800)?

Darren Gillick, The-place-they-make-Weetabix (Burton Latimer)

What gave you the impression he gets his hair cut? Dex & Jonesey are no longer working together but we'll see if we can get them to impart a few more pearls of bangin' house wisdom in the near future. The A5000 has been dropped to be replaced with something (as yet unknown) better.

Writers wanted

I am trying to find writers for a new diskmag called Buzz for all Amigas and was wondering if you could give me a bit of a plug in you mag. My name is John Adams 17 Abbey Gardens Belfast BT5 7HL or email jadams1644@aol.com. I hope to have issue one out by September and of course you will receive a copy.

John Adams, via email

My word, what a long name you have Mr 7HL.

A meagre 500

I think you should have more coverage of the A500 for those of us who can't afford a posh new A1200. We're forced to miss out on all the best things that are going on and it's not fair. How about you dedicate a section of the mag to A500 products?

Nigel Worthington, Stoke-on-Trent

How about you get an A1200 instead?

CU Amiga reserves the right to edit readers letters and make wholesale removals of parts that go off on irrelevant tangents. We'll also have a stab at correcting spellings too, but that doesn't mean you don't have to try. Email addresses will not be published unless specifically requested. The value of shares can go down as well as up. Always read the label.



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Points of View



Time for a few more opinions... please note that the views expressed here are not necessarily those of CU Amiga.

Email marketing does not work



It's all to familiar notion to everyone with e-mail. You log on only to find a couple of long mails with subject titles such as "email marketing works", "earn $100,000 dollars a year TAX FREE" or "XXX videos for sale". Someone, somewhere, has sent a bulk advertising mailshot to thousands or even millions of different people, and you are one of them.

It is unlikely to be targetted at you in any meaningful way, and worst of all it is you who has to pay for it. Spam is the cheapest way of getting your advertisement distributed to vast numbers of people, with the cost of sending e-mail multipley negligible. The cost to you may be small, a couple of pennies at most to download, but the hidden cost is much larger. Spam, and the large quantities of mail it generates, uses up a significant amount of internet bandwidth and infrastructure, bring up the cost of internet access to everyone while slowing down the service.

It would be logical to legislate on the usage of e-mail in this context.

Private matters

While outlawing anonymous emailing would be an infringement of privacy and personal freedom, the use of false addresses for bulk advertising is clearly done out of recognition that spamming pisses people off. I don't see why mass commercial mailers should not be legally obliged to set their reply-to accurately.

If you fill in a form giving contact details, a company is legally obliged to warn you if they intend on selling those details on and offer you the opportunity of telling them not too. Odd, then that anyone can take your email address from a website without your permission and use or sell that. Some kind of legislation to cover this could be a good idea too, perhaps placing a legal demand on commercial mailers to obtain assent to receiving advertising before it is sent.

You can follow the advice laid out in Wired World and complain to the ISP, you can call the fax number quoted in the email and send a digital fax of a 15 page long scribble via STFax to waste their fax roll, but if we are ever going to get a permanent solution, the guys who make laws need to know.

Do the write thing

Write to your MP and explain the problem. UK readers can check out www.parliament.uk, phone the house of commons on 0171 219 3000 for information on your local MP, and write to them at the house of commons or via e-mail – pop over to the CU Amiga website at www.cu-amiga.co.uk and check out the POV page, where you will find the e-mail address of the 160 or so on-line MPs. US readers have it easy as all congressmen have an email address which can be found at www.house.gov/MemberWWW.html, while in Europe emailable politicians are still rather a rarity. Get complaining! ■

Andrew Korn is Deputy Editor for CU Amiga

Do we need Amiga Inc?



Why do people still use Amigas? I do not wish to dredge up that old "What is an Amiga?" chestnut, but it is an important (and perhaps overlooked) question. It is certainly not because of the antiquated hardware: if Amiga users desired merely a fast machine, then they could go and buy a P333 or whatever. It is also not because of the wealth of available software: we are all too aware of the lack in this department. So it must be the Amiga's powerful and flexible operating system. It is this which makes the Amiga a joy to use and what keeps people using it.

Interface

The current state of the Amiga's OS, however, is pitiful. When OS3 was released in 1993 it was arguably the best OS on any home computer. It had a nice GUI, datatypes, localization, and all that horrible BCPL code that had previously haunted the Amiga had been removed. But five years later it looks tired. Anybody who uses their Amiga seriously today is forced to prop up Workbench with a score of patches and kludges just to make it usable. Not only does this detract from the OS's stability, it negates the Amiga principles of cleanness and efficiency.

Unfortunately, we are stuck with this situation for the foreseeable future. Amiga Inc has shelved OS3.5, and the new Amiga is over a year away. At the time of writing – mid July – details on the developer's machine are scarce. It appears it will be an x86 box with a plug-in Amiga-based card for backwards compatibility. It is unclear what OS the host system will run and what form the integration of the Amiga card will take. But, whatever, it will still be some time until any new applications appear. We users will still have to rely on our legacy software and OS3.

Pretty please

My plea to Amiga Inc then, is for an update to the "Classic" OS. I know they do not have the time to do this themselves; they are concentrating on their new wonder machine. But what is stopping Amiga Inc from funding the AROS team to complete their project. If phase 5, Haage & Partner, the AROS guys, Stefan Sommerfeld (of Scalos), and perhaps a few others were to collaborate, a blindingly good, portable, legacy-compatible OS could be created.

I want a usable OS now. If Amiga Inc are not prepared to arrange its birth then perhaps the above-mentioned players can do it without them. New hardware is necessary, too. But whatever miracles are claimed for the much-touted super Amiga, I am yet to be convinced. (A quad G4 PPC machine, for instance, sounds far more attractive to me.) If Amiga Inc continues to ignore the so-called "Classic" Amiga – can we, in turn, ignore them? Should we look elsewhere for the true successor to the Amiga? The Amiga survived before without Amiga Inc; do we need them now? ■

Richard Drummond is Staff Writer for CU Amiga

Creating the killer app



They tell us this next generation Amiga is going to be wild, and I believe them. The trouble is, will the rest of the world believe them? There's a phrase so worn out that it's already on to its third pair of PVC elbow patches: "Software sells hardware". Sorry to have to run that by you for the squillionth time but it's central to this little piece.

Assuming this new Amiga is going to have the power to knock our socks off, it's vital that it actually does so. It strikes me that there are three main ways to convince people your computer is better than anyone else's:

1. Tell them your computer is the best more often and louder than anyone else says the same about theirs.
2. Produce the longest list of current 'must have' buzzword features and top it off with a MHz rating for the CPU.
3. Show them your machine doing something they never dreamed would be possible.

The first one obviously works and you don't need me to tell you which duopoly has proven that. Success or failure here comes down to a simple matter of who has the most cash available for advertising/brainwashing. The second is a favourite with those who build ready-to-run PCs (we know someone like that, don't we?). It has the disadvantage of pandering to a market lead by hype and buzzwords created by other parties, so you are not creating and marketing your own agenda, which obviously is at odds with any truly revolutionary technology. The third is quite difficult to do with a current PC or Mac, despite the constant acceleration of progress in their hardware capabilities.

Soft spot revealed

So, the chink in the armour is revealed. As it happens, this is a soft spot that a next generation Amiga will be ideally poised to attack. With its brand new hardware architecture designed from the ground up, combined with an operating system that fits like a glove, defiance of the impossible becomes an appetising challenge.

Not that Amiga Inc can afford to rest on the laurels of a super DSP-CPU hybrid and an operating system. No, that's only the start – you're never going to sell a computer system to the masses based on some fancy windows and a realtime fractal generator. What we need is the 'killer app'.

With the release of the development systems in November we should see the conception of a number of exciting new products from third parties, many of which we hope will be ready in time for the release of the real hardware. How these shape up is anyone's guess. Time, manpower and money available to developers will vary, as will the vision and inspiration behind the projects. All of these factors will have their effects on the products themselves. It's feasible that when the first next generation Amigas roll off the production line, all that's available to run on them is a bunch of applettes that ape the big names on the PC: a poor man's Photoshop, an under developed 3D rendering package, a lame Tomb Raider clone... you get the picture. Of course that's a worst case scenario, but what's to say it won't happen? Amiga Inc can't afford that to happen, so I suggest they make it their business to ensure it doesn't.

Dramatic entrance

I believe it's essential that the next generation Amiga makes a dramatic entrance. If it arrives shrouded in a cloud of insignificance, it could all be over before it's even started. Many people are already convinced that Amiga is a spent force. If it was to make a new attempt at impressing people and fail, I can't see people giving it a third chance in any great numbers.

"Many people are already convinced that Amiga is a spent force. If it was to make a new attempt at impressing people and fail, I can't see people giving it a third chance in any great numbers."

That's why Amiga Inc should take a bold step and either develop their own killer app, or, more likely, farm out the job to a developer with a proven track record, directing the software's creation from start to finish. After all, no-one knows this mystical new hardware and OS better than Amiga Inc, and no-one has a bigger interest in its success.

Further to this, the chosen killer app should be bundled with the OS. Future development of the killer app can then be taken over solely by the third party. This needn't be an actual Amiga Inc product, just a very close collaboration. If you want an example of how that kind of thing has worked recently, Nintendo created Mario 64 in parallel with the N64 hardware. The result was the kind of jaw-dropping reaction that any new computer or console contender must provoke. They messed up on other things such as release dates and the use of cartridges, but those are separate issues.



▲ **Mario 64: Nintendo's 'killer app' and flagship title was designed and created by Nintendo themselves in conjunction with the N64 hardware to ensure their console arrived with a bang. Sure enough, jaws dropped worldwide on its release.**

Rare talent

Exactly what this killer app should be depends on what the hardware and OS will be able to do, and the markets in which Amiga Inc hope to succeed with the platform. Some kind of multimedia thing is favourite, but then the multimedia tag always was a bit of a vague thing.

More specifically, a software-based Video Toaster/Flyer type thing that handles all the new and forthcoming high definition TV and video standards, DVD and so on would be a start. As for bringing on other developments, Amiga Inc would do well to take a good look outside the Amiga community for talent. Of course the Amiga community will be extremely valuable to them, but it would be wise to court the likes of Rare (formerly Ultimate Play the Game and arguably the world's best independent game developer) and some of the more forward thinking developers that now make a living from PC and Mac software.

The most important thing is that Amiga Inc make sure people lust after an Amiga system as soon as they see and hear what it can do. There's no room for false starts these days. Let's hope the next generation Amiga gets off to a good one. ■

Tony Horgan is Editor of CU Amiga

TECHNO TRAGEDIES

The Sinclair C5

Born: 1985. Died: 1985

Sitting atop 12 volts of throbbing washing machine motor, Sir Clive Sinclair emerged from the lab to less than rapturous applause from press and public alike...

There's a very fine line between something which is a genuinely revolutionary concept, and something which verges on the ridiculous. For a few brief days in 1985, the Sinclair C5 teetered on the brink as it looked as though it was going to redefine public transport on the UK's roads. My local computer games rental shop (which burnt down in mysterious circumstances after the computer game bubble burst) had one in its front window as a prize draw, and I was genuinely disappointed not to win it.

Revolution time

Sinclair was the man who revolutionised the computer in the UK and Europe by making them cheap enough for everyone to own. The ZX80, 81 and Spectrum are classic milestones in the history of the home computer, with millions of users learning the basics of computing as well as playing games written by dozens of startup-companies.

Sinclair's new development was the C5, a totally green personal transport vehicle. Launch in January 1985, the C5 was a form of recumbent tricycle with a 12 volt motor providing power for helping the pilot undertake journeys and even hills with less effort than an ordinary bicycle.



The C5 was innovative in many ways. The moulding technology which made the bodywork was a first, the body frame was apparently made by Lotus and the electric motor had special electronics to manage the rechargeable battery pack.

It was a real alternative to polluting, noisy, smelly cars and was designed for short journeys around city centres. It was perfect for commuters who maybe already cycled to work but who wanted something slightly more stylish, with a little carrying space for their personal organiser and a little protection from the elements.

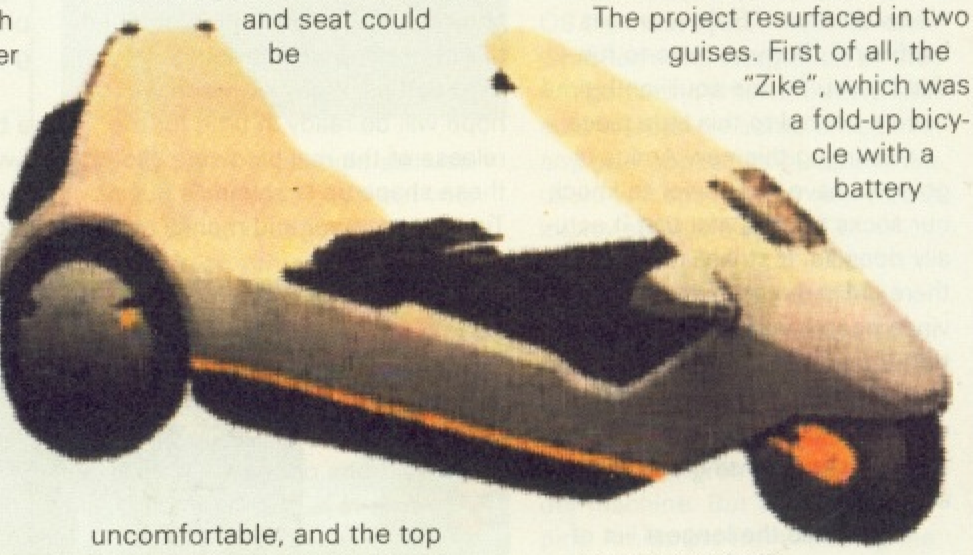
How much!!

If memory serves, the price for such innovation was about £399 to £499. Certainly many brochures were sent out to the usual crowd of Sinclair fans who had helped finance the ZX Spectrum, and a massive PR operation swung into being.

But it was not to be. The media had found themselves a new target for ridicule, and an endless source of "..and finally" stories for the end of the TV news. Sir Clive might have created the home computer revolution in the UK, but that was forgotten. He was now responsible for the C5 – its critics called it cross between a Robin Reliant and a yoghurt carton, and others weren't so kind.

Foot to the flaw

No-one is claiming that the C5 was perfect: it certainly suffered many design flaws. The low ride height made it difficult to see on the roads, the pedals and seat could be



uncomfortable, and the top speed of 15mph was hardly Formula 1 class. Worst of all, who can forget a petrified Stirling Moss, pedalling frantically around a roundabout, seconds away from being crushed to a pulp by the monstrously huge articulated lorry bearing down on him?

While the media decided it was a joke, the government decided that the C5 was enough of a vehicle to require insurance and tax. Driving associations called it dangerous, the supply of C5 jokes seemed never ending.

In the end, the media killed it off. Sir Clive's vision of a cleaner, healthier society was strangled at birth, and sadly the damage still lingers to this day as few companies would be brave enough to release an electric car of any description for fear of it being labelled a modern-day C5.

Although many thousands of C5s where sold, you rarely see any on the streets today. In fact these days the C5 is a collectors item, although many are still in use outside the UK – especially in Holland where all things bicycle are revered. If you happen to own one, you've got a little goldmine so look after it.

Batteries included

The project resurfaced in two guises. First of all, the "Zike", which was a fold-up bicycle with a battery pack/motor built into the frame. This didn't catch on. Second came the "Zeta" (riding Zero Emission Transport Accessory), which was another bike/battery combination, but this one could be bolted into existing bicycles. As far as we can tell, it's still available by mail order.

One thing is clear: the great British public likes its cars to be cars, and bikes to be bikes – and isn't ready for anything too innovative to appear on the roads. ■

John Kennedy

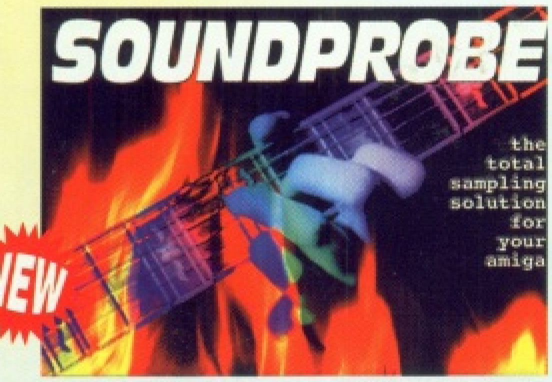
Web resources

The best web resource for all things Sinclair is without a doubt Planet Sinclair, which you can find at http://www.nvg.ntnu.no/sinclair/index2.htm

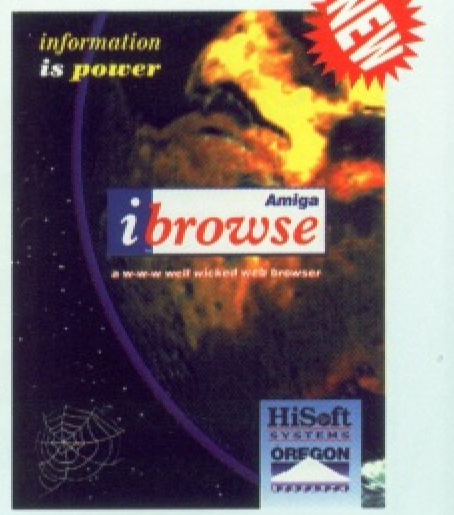
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